THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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LIFE IN FEBRUARY.

"Old customs! Oh! I love the sound,
However simple they may be:
Whate'er with time hath sanction found,
Is welcome, and is dear to me."

YOUNG AMERICA is a stout, progressive, and generally well-behaved fellow; thinks well of himself and his possessions, and cares little for what has been done by the old 'uns who have preceded him. Nevertheless, it is curious, interesting, and perhaps instructive to read and dwell a little upon some of the singular customs of bygone days, or ages, as well as on some that exist at present in various parts of the world.

When a man is married in Abyssinia, and immediately after the matrimonial ceremony is concluded, it is a custom for his *friends* to assemble, and with whips made from hippopotomus hides, give him a most unmerciful flagellation, in order to test his courage for endurance! Whether this is to test his courage in war or hunting, or under the discipline and torments of his new wife's tongue, does not appear. Sometimes these scourgings are extremely severe, but the poor spouse bears it all with the heroism of a martyr, while his delighted bride smiles approvingly at every crack of the cruel thong!

Some tribes of Esquimaux live in huts under ground, where the frost penetrates the earth forty or fifty feet deep; and they have a custom of building a hut, and when parents or other relatives are aged, infirm and past service, of placing them in the hut alone, with a small amount of food, and leaving them there to live and enjoy themselves as long as they can! A more humane custom, but hardly less singular, is, to abandon the hut entirely where a person dies! No matter how valuable it may be, whether one just erected, upon which all their skill and means have been expended, or whether one tumbling to pieces with use and age, the deceased is left there, and access to the hut is closed forever.

In good old enlightened England, they had a thousand curious customs, and it is quite singular that more of them have not descended to us. A number of these customs were observed in the month of February. One was to eat pancakes and fritters on Shrove Tuesday. *Shrive* or *Shrove*, we suppose, means confession of sins. Taylor, the water-poet, in his works, 1630, has a curious account. "Shrove Tuesday, at whose entrance in the morning all the whole Kingdom is in quiet; but by that time the clock strikes eleven, which, (by the help of a knavish sexton,) is commonly before nine, then there is a bell rung, called the pancake bell, the sound whereof makes thousands of people distracted, and forgetful either of manners or humanitie; then there is a thing called wheaten floure, which the cookes do mingle with water, egges, spice, and other tragical, magicall inchantments;

and then they put it, by little and little, into a frying pan of boiling suet, where it makes a confused dismall hissing, until at last it is transformed into the forme of a flip jack, cal'd a pancake, which ominous incantation the ignorant people doe devoure very greedily."

At York, they had a custom for a long time, that all the apprentices, journeymen, and other servants of the town, had the liberty to go into the cathedral and ring the pancake bell on Shrove Tuesday; and people came, not only from the city, but flocked from the country, to take a part in the fun. They also exercised themselves in running, arching, leaping, wrestling, mock-fights, &c. All this was innocent and very well, but they had practices which were cruel and barbarous, and had the blows been upon their own backs, as in the case of the Abyssinian husband, they would have been less censurable.

One of these practices on Shrove Tuesday,—when they ought to have been confessing their sins,—was to blindfold hens, or tie a cock to a stake, and, standing at a distance, throw cudgels at it until the poor creature was beaten to a jelly. It was not uncommon for religious (?) parishes to manage this cudgelling of the cocks, and apply the money collected in aid of the poor rates!

Hogarth satirized this barbarity in the first of his prints, called the "Four Stages of Cruelty."

A custom has long existed among ourselves which is cruel and unworthy of the age. It is called *shooting at a mark*,—that mark being a fowl, and is a little less cruel than cudgelling an animal to death, because life is terminated by ball or shot. Even in this case, the poor birds are terribly frightened, and often severely injured without drawing blood.

Another custom of great cruelty is that of cock-fighting. It has obtained a considerable foothold in some portions of New England, and attracts young men and old into some of the most pestilential dens in the land.

All these cruel practices are inhuman, debasing, and unworthy the age in which we live. They have a tendency to make men selfish, unfeeling and cruel everywhere. Our laws punish them, and it is the duty of every good citizen to prevent them, as far as lies in his power. Perhaps the greatest amount of cruelty inflicted is that upon horses; that is not usually a systematic cruelty, but springs from passionate excitement of the moment.

We must qualify what the poet has said at the head of this article, a little, so that no custom which we remember with respect shall be cruel, or in any way debasing, or shocking to the best feelings of our natures.

SILESIAN AND SAXONY WOOL.

The letter from Mr. Tellkampf, which we publish on another page will attract the notice of those of our readers who are interested in wool growing. He says that the present tariff operates seriously against a supply of several qualities of wool needed for various descriptions of woolen goods. But instead of proposing that the duties on these kinds of wool should be reduced, he suggests that the manufacturers invest one hundred thousand dollars in a stock farm for breeding such sheep as will produce the wool they need; and from which farmers may be supplied with rams of the desired quality.

While this may certainly be received as evidence of the good faith of the manufacturers, and as a very liberal proposition on their part, we must say that we think some simpler plan, and one more in accordance with the usual course of business in this country, may be adopted to stimulate the production of the desired staples. It is so obviously for the interests of wool growers to furnish every variety of product required by their customers, the manufacturers, that we believe our farmers will readily make any changes in their flocks necessary to enable them to supply the demands of the market. Still some union of producer and consumer may be necessary to secure the needed importation. The proposition, however, of Mr. Tellkampf has not as yet been acted upon by the manufacturers.

In this connection we may be pardoned for publishing the following extract of a business letter recently received by one of the editors of this paper from a leading wool merchant in Boston:—

The universal feeling with wool dealers and wool manufacturers is, that the fine wool of the country has been materially injured by the introduction, so generally, of the heavy, greasy bucks of Vermont. While the supply of wool in the country was less than the demand, Vermont, by holding back her wool, got as much for it as Ohio and Pennsylvania did for the lighter and cleaner wools grown by them. Consequently, it was very nat-

ural that the latter should strive to increase the weight of their fleeces, even by the addition of grease, when they found that manufacturers did not appear to make the distinction. Such now is the prejudice against this class of wool, with dealers and manufacturers, that it is hard to induce one to look at a pile of Vermont wool.

May not this account for the complaint of the *Ohio Farmer*, recorded in the "Agricultural Items," in the NEW ENGLAND FARMER, of 14th ult., viz.: "Three years ago I put $2000 into Vermont sheep, and now I cannot get $500 for them."

MILK PRODUCERS.

An adjourned meeting of the Milk Producers' Association was held at Meionian Hall, in this city, Thursday, Dec. 26. There was an attendance of some two or three hundred delegates of clubs and neighborhoods, and individual milk producers. The President of the Association, Lyman Belknap Esq., of Westboro', was not present at the opening of the meeting, and the senior Vice President, J. W. Robertson, Esq., of Quincy, acted as chairman of the convention.

After the election of W. Ramsdell, of Milford, N. H., as one of the Directors of the Association, and after some general remarks by several gentlemen as to the purposes, objects and work of the Association, D. Rounds, Esq., from the committee appointed by the previous meeting to prepare a Constitution and suitable By-Laws for the government of the Association made a report which was accepted. Each article was then taken up separately, freely and ably discussed, and after some alterations, the following was adopted by the Association as its constitution and by-laws:—

Constitution.

PREAMBLE.—Believing the right way to promote the interests of any community financially, is to encourage the producers of that community, by securing to them a full and just recompense for their labor, skill and capital invested; therefore, we, the Milk Producers of Massachusetts and New Hampshire do organize ourselves into a mutual benefit association, and bind ourselves to be governed by the following Constitution and Laws:

ART. I.—This society shall be called "The Milk Producers' Association."

ART. II.—Its officers shall consist of a President, three Vice Presidents, Secretary, Treasurer, and seven Directors, who shall be chosen annually in the city of Boston, on the first Tuesday in December, and shall be so distributed as to equitably represent each section of the Milk producing territory interested in this association.

ART. III.—1. The President shall preside over the meetings of the Association and Executive Board, when not necessarily absent, but in case of absence the senior Vice President present shall take the chair and perform the duties of the presiding officer.

2. The Secretary shall keep a record of the proceedings of each meeting of the Association, and its Board of Officers; and shall preserve all reports of committees, and conduct whatever correspondence the business of the Association may require.

3. The Treasurer shall have in his custody all the funds of the Association and disburse the same upon the order of the Secretary, countersigned by the President. He shall also present at each annual meeting, and oftener if required, a clear and accurate statement of the financial condition of the Association, and as his office is one of trust and responsibility he shall be required to give bonds with at least two satisfactory sureties for the faithful performance of the duties of his office.

4. *All* the officers of the Association shall constitute its Executive Board, and it shall be their duty to meet quarterly, and oftener if the interests of the Association require, also, to confer with the purchasers of milk, and establish once in six months the price at which milk shall be sold by the members of the Association, to be governed by the following consideration, viz: the cost of feed,—the time of year,—the distance from market, and the expense of transportation.

ART. IV.—The annual meeting of this Association shall be held in the city of Boston on the first Tuesday in December, at which meeting the Board shall present its annual report; after which the order of business shall be as follows:—

1. The report of the Treasurer.
2. The election of officers.
3. The transaction of such business as may relate strictly to the objects of this Association.

Other meetings of the Association may be held during the year should the Board deem it expedient to call the same, or should a request be made in writing by not less than fifteen members.

ART. V.—Milk producers directly interested in the objects of this Association may become members of the same, by signing the Constitution and Laws, and paying into the Treasury one dollar, and shall thereupon receive a certificate of membership which shall entitle him to vote personally or by proxy at all its meetings.

ART. VI.—Alterations or amendments may be made to this Constitution by a vote of two thirds of the members present at any annual meeting.

By-Laws.

1. As order is essential to expedition in the transaction of business in a deliberative body, therefore this Association will observe those rules which are generally regarded as law in parliamentary debate.

2. No member shall be allowed to speak more than ten minutes upon any one motion unless by mutual consent the time shall be extended.

From the somewhat extended discussion which resulted during the consideration of the constitution of this Association, we inferred that the immediate cause of the present movement was a proposed reduction of the price of milk, on the part of the dealers in the article, for the present winter.

It was stated that although the cost of cows and hay had about doubled within four or five years, milk is now actually sold for less money in currency than it formerly brought in gold. Though the farmers sell by the old fashioned quart, the dealers sell by the wine measure,—about one-fifth less. In Derry, N. H., for the six summer months, the can of eight large, or over ten small quarts, was sold for thirty cents.

During October and November, thirty-four cents were allowed, and thirty-eight cents per can for the other four winter months—throwing the hard month of April into the summer range of three cents per quart, city measure. It was said that though the milk might be sweet when delivered, the dealers returned it to the farmers if it soured on the way.

And yet all these matters of price, all these terms and conditions, changes and alterations, were arranged and made by the dealers alone. The producer had no voice in the matter, no part in the discussion, no hand in the bargain, save that of unconditional acceptance or rejection—of keeping his milk or taking the price "ready made," for him.

The opinion was expressed by several members, and apparently acquiesced in by the convention, that the consumer paid enough for his milk. The trouble is that by some means a fair proportion of the money paid by the consumer did not reach the farmer who owned, fed and milked the cows. It was stated that on one route a can of milk was worth thirty-one cents at the upper end, and sixty-eight cents at the lower end. The fact that the middle-men in some of their contracts with the railroad corporations had secured the exclusive privilege of transporting milk over certain portions of their roads was assigned as one of the reasons for this undue difference between the price obtained by the farmer and that which was paid by the city family.

While the convention, therefore, disclaimed any wish or disposition to increase the cost of milk to the consumer, a very strong desire was expressed that a better quality than that now furnished to them should be supplied. To effect this object various plans were suggested, and the following resolution was unanimously adopted:—

Resolved, That we respectfully invite the City Government to appoint a thorough chemist as City Milk Inspector.

At the close of the forenoon session, a call for signatures to the constitution was made, and we understood that seventy-five different towns were represented. The election of officers made at the last meeting was then unanimously confirmed, as follows:—

President—Lyman Belknap, of Westboro'.
Vice Presidents—J. Robertson, of Quincy; L. Crosby, of Billerica; Dea. Geo. Shute, of Derry, N. H.
Secretary—D. Rounds, of North Wrentham.
Treasurer—S. H. M. Hurd, of Wayland.
Directors—W. S. Pillsbury, of Londonderry, N. H.; C. A. Hubbard, of Concord, Mass.; Hammon Reed, of Lexington, Mass.; Elias Colburn, Temple, N. H.; C. H. Haskell, Harvard, Mass.; Gen. —— Nason, Hampton Falls, N. H.; Samuel Osgood, Sterling, Mass.; Wm. Ramsdell, Milford, N. H.

These gentlemen also constitute the Executive Committee; in other words, the men who are expected to do the work of the Association.

In the afternoon, after the transaction of business, some time was spent in an informal but animated conversation. The anomalous condition of the farmer, as a deeply interested but utterly *silent* partner in the great milk supplying business, was depicted in strong and somewhat indignant language.

The liberality and fairness of the convention was, however, manifested by a unanimous vote to allow Mr. J. D. Brown, of Concord, Mass., to express his views. For the past twenty-three years Mr. Brown has acted as "middle-man,"—or as he considered himself, an agent,—between the farmers of that section and the milkmen of the city. He thought there was much misapprehension on the part of farmers in relation to the profits on milk after it left their hands. Until the late rise in prices, he had received for freight and commission, four cents per can of seven large quarts, and since "the doubling up" of prices, five and one-half cents per can. He stated that the common price of milk in Boston is now eight cents per small quart. He himself was a milk producer, as well as middle-man; had not got rich from his long service in either capacity; had delivered milk to a large number of distributers in the city, and while some had succeeded, others had failed in the business, and he thought the farmers of Concord and vicinity made money as fast as himself or the city peddlers. If this Association could devise any fairer way than the present for doing the business, he was willing to stand aside. For some months past the supply of milk on his route had exceeded the demand, and he had been obliged to refuse to take all that was offered. He had also in some cases transported and delivered milk in cans for farmers who desired him to do so, for which he charged three to four cents per can. In such cases the farmers provided for its distribution in the city themselves.

During his remarks, Mr. Brown gave way frequently to members who asked questions and controverted some of his positions, to whom he respectfully replied, though he may

have failed to adduce reasons satisfactory to the convention for the difference in the price paid by the consumer and that received by the producer, in many cases.

After Mr. Brown had taken his seat, his statements were reviewed at length by Mr. Ramsdell, of Milford, N. H., and by W. S. Pillsbury, of Londonderry, N. H., who thought that he and the farmers of Concord must be exceptions to the general rule.

In reply to a direct question put to one of the milk producers, whose name we did not learn, the statement was made that nine quarts per day for nine months of the year,—which was his usual time for milking cows,—was a fair average production of milk.

The Executive Committee were directed to have the constitution printed and forwarded to the members of the Association, and to milk producers who are not members, with a request that they circulate it among those interested, for their signatures.

The committee were also directed to assign topics for report and discussion at the annual meetings of the Association. This we hope will be done immediately. Talk is plenty wherever men congregate in this country, but facts and practical plans are sometimes scarce. There are many questions connected with the milk business which should be deliberately investigated. Topics calculated to bring out important facts should be assigned a year in advance, to afford time for thought, inquiry, and arrangement. Studied reports on the cost of producing, of transporting, and of peddling milk; on the relative value of milk for cheese and butter, manufactured at home or in the factory, and many other subjects, such as breeds of cows, variety of feed, &c., would give great interest to the annual meetings.

That the Association embraces men capable of doing justice to any of these topics must have been evident to all who attended the late meeting. We have great faith in the efficacy of facts, and in the "sober, second thought of the people," to correct the evils and injustice which individuals and classes occasionally suffer from wrong laws or practices. Within the past twenty-five years there has been a pretty thorough revolution in the modes of marketing our farm products, and it is not at all surprising that some of the details of our present system should need a little adjusting, or be susceptible of some improvement. And we are quite hopeful that this Association will be able to effect the needed adjustments and improvements in the important business of furnishing city and village families with a pure article of milk at reasonable prices.

For the New England Farmer.

CHEMICAL TERMS---No. VII.

Fermentation.—Certain chemical combinations take place in animals and vegetables during life, by which are formed animal and vegetable tissues,—albumen, mucus, fat, starch, gum, sugar, &c. These are called proximate elements, and sometimes organic products. They readily undergo decomposition. They are made up from various combinations of carbon, oxygen, hydrogen and nitrogen. These are called ultimate elements, and are the principal constituents of all living organisms. To them are added in minute quantity, a few other substances, as sulphur, phosphorus, potassium, iron, silex, &c.

As soon as life ceases in organic bodies, nature commences a process of decomposition, the object of which is to resolve these proximate elements into the ultimate elements of which they are constituted. In all the changes that take place, the form only of the organic body disappears. The elements which compose them are unchangeable. We no longer see them, because they are converted into invisible gases. This process of decomposition is called fermentation, putrefaction, decay. It is really but one simple, continuous process, for if, under certain conditions, gluten, starch, and sugar are left to act mutually upon each other, they will be entirely changed, so that their ultimate elements will be set at liberty to enter into new combinations. Various changes occur during this process of decomposition, which we may modify or arrest for our convenience or use,—thus subjecting the forces of nature to our service. In examining the process as it goes on, we may divide it into several stages. These stages are marked by the presence of certain new products, or chemical combinations, which were not before apparent, or at least not in the same forms which they now present. Thus starch is changed into gum or dextrine. Gum is changed into sugar; sugar into alcohol; alcohol into acetic acid, &c. Chemists are in the habit of calling these several changes so many kinds of fermentation, as though they were distinct and separate processes. Thus they speak of saccharine or sugar-forming fermentation, vinous or alcoholic fermentation, and acetous and putrefactive fermentations.

Some have gone so far as to point out twelve distinct fermentations, each marked by some distinct product,—but I shall speak only

of the four kinds above named. The process of fermentation is somewhat varied, according to the substances upon which it acts, and the circumstances under which it is carried on. It may be more readily excited, and carried on more vigorously, by the addition of some ferment. When fermentation is set up artificially, the ferment most commonly used is called yeast,—a substance prepared from the altered gluten of barley in the process of brewing. Any albuminous substance in a state of decay, as flesh, fish, glue, cheese, &c. will produce the same result in time, but the yeast from malted barley seems to possess this power in the highest degree, and acts more rapidly than any other substance. Yeast is produced from the gluten of barley acted upon by a substance developed in the process of malting, called *diastase*, whose nature and mode of action do not seem to be well understood. If this substance or a mixture containing it, be added to a mixture of starch and water, or of vegetable substances containing starch, the starch will be changed into gum or dextrine, and this will be changed into sugar. This is the first kind of fermentation, or as it is called, the saccharine or sugar-making fermentation. Now if this process is allowed to go on, or if to a solution of honey or grape sugar in water, yeast be added, the sugar will part with a portion of its carbon and oxygen and be converted into alcohol. The portions of carbon and oxygen which the sugar has lost will combine and form carbonic acid, and thus the products of this kind or stage of fermentation will be alcohol and carbonic acid. This is the fermentation which takes place in the working of wine, cider and beer, all of which liquids contain sugar and albuminous matter. The intestine motion that goes on in the liquids during the process, is owing to the formation of carbonic acid which rises to the surface. This process goes on until all the sugar present is converted into alcohol, provided there is also present sufficient albuminous matter or ferment. If there is not, a portion of the sugar remains unchanged, giving to the resulting liquid a sweet taste. It is in this way that sweet wines are prepared,—a portion of the sugar contained in the grape juice remaining unchanged. When the process of fermentation in cider is arrested by the addition of any substance having the power of arresting it, a portion of the sugar remains unchanged, and the cider is thereby rendered sweet.

The vinous fermentation, or the conversion of sugar into alcohol, may be arrested by the essential oils that contain sulphur,—as the oil of mustard and horseradish, or by the action of sulphurous acid, which has the power of rendering the yeast inactive. Sulphuric acid also possesses the same power, which is more especially shown in rendering inactive the fermenting matter in putrefactive fermentation. Hence sulphate of lime, iron and zinc are used in putrefying masses as deodorizers. They act by preventing for a time, the evolution of offensive gases. The sulphite of lime, which is a combination of sulphurous acid with lime, has recently been used to arrest vinous fermentation. Care should be taken that enough of this substance should not be added to the fermenting liquid to leave the smell or taste of sulphur.

In the acetous fermentation, the alcohol previously formed from the sugar, is converted into acetic acid or vinegar. The alcohol is oxydized by the oxygen of the atmosphere. Hence it is necessary in this process that there should be free access of air.

If the products of vinous fermentation, as wine, cider or beer be exposed to the air at a temperature over 66° F., and if some ferment be present, and especially if some vinegar be added to it, or some of that slimy substance found at the bottom of vinegar casks, called mother, this form of fermentation will go on till all the alcohol is changed into acetic acid and water. When sugar is present in the alcoholic liquid, the vinous fermentation may go on at the same time with the acetous, and the sugar be changed into alcohol, while the alcohol is being changed into acid. Acetic acid is a very strong, pungent, corrosive acid. Common vinegar contains but a small per cent. of it, the remainder consisting chiefly of water and coloring matter. The revenue standard in England is five per cent.

In the putrefactive fermentation of animal and vegetable substances, air and moisture must be present, and the temperature must be between the freezing and boiling points, as it is wholly arrested by a temperature indicated by either of these points. Any putrid substance will act as a ferment upon fresh animal or vegetable substances. Hence if straw, peat or other vegetable matters be mixed with putrid animal manures, the process of putrefaction is soon communicated to the whole mass, and an active compost is formed.

During this fermentation, several gases are formed and given off from the decomposition of the albuminous matter present in the putrefying mass. These matters contain nitrogen, sulphur and phosphorus, which combine with hydrogen, and form ammonia and sulphureted and phosphoreted hydrogen. These are the offensive gases which have been already alluded to. The hydrogen is furnished by the decomposition of water, whose oxygen combines with carbon, forming carbonic acid.

Much has been said and written upon fermentation, and that portion of it which relates to ferments and their origin and mode of action is still involved in mystery. Ferments appear to communicate nothing to the fermenting mass, nor to take any thing from them, and yet as we know a "little leaven will leaven the whole lump." Ferments seem to act upon bodies exposed to them much as contagious disease attacks healthy bodies, by a sort of infection which causes an action in the body

attacked, similar to that existing in the body communicating it. Indeed the similarity is so great that the idea has been recently advanced that the same substances that will arrest fermentation, will also arrest the action of certain infectious diseases. J. R.

Concord, Mass., Dec., 1867.

For the New England Farmer.

SHELTERING LANDS.

Every one must have had sufficient experience to know that buildings, and even high, tight board fences and stone walls protect the lands near them more or less, according to their extent, from the evil effects of high winds. Thus we have seen fruit trees, shielded from the east wind by buildings, give large crops, while in the open, exposed orchard, the effects of blight destroyed the crop. So with fences,—they ward off blighting winds, and fruits grow and ripen near them, while similar kinds, if exposed, reward labor with only failure. If the effects of protection are so evident and so beneficial on the small scale, as given by buildings and fences, then, where given on a larger scale, a proportionably larger benefit must result.

Wherever we have seen buildings, gardens, or fields protected by natural groves, like results have been seen. The cold winds have been broken and their blighting influences mitigated, if not destroyed, so that the temperature in stormy and cold weather becomes several degrees more agreeable than that in open fields exposed to the full range of winds and tempests.

The lesson taught by such observation is, that if farmers will protect their fields, buildings, and gardens by belts of trees, they will break the force of winds, and soften the asperities of the climate, so that extreme sudden changes will not be as severe. This protection of his home and its surroundings, of his stock and fruit trees, will result in the health of the former and the productiveness of the latter.

It will probably be argued by some that these belts of trees occupy too much land, and land in the proximity of buildings is valuable. Timber, too, must be valuable when woodland on the roughest mountains will bring more cash per acre, than improved lands in the valleys did a few years ago, or when timber land in the valley will give a better return on actual cost than can be realized on much of the improved lands. So, then, the lands occupied by these belts of trees, is not lost, but is silently and without labor beyond the first setting out, producing a crop which at some future time will, if the owner gets tired of his protection and longs to hear and feel the rough winds roar around his premises and witness their devastating influences, yield in cord wood, more than enough to pay all cost of labor, taxation, and interest on land, at ten per cent. The greater gain, however, results from the protection to the grounds, buildings, the family in the house, the stock in the barn, and the trees, shrubs and vines on the surroundings.

Fuel, not only to those who purchase, but to owners of woodlots, has become an expensive item in New England. Our long winters are an expensive inheritance, and one that must continue to all generations. To guard against the demands of these winters is required, not only by comfort, but economy. Well built houses and out-buildings will, in a measure, do this, but the well arranged grove will protect these buildings from wrenching winds, as well as the indwellers from the insinuating cold they bring. Thus no inconsiderable saving of fuel in the house will be the result of protection, while at the same time a similar saving in the fuel which is consumed to keep up animal heat, will be effected. Thus sheltered, how calmly the rain descends and the snow flakes fall, and how quietly they lie. Then if the animal is loosened from its stall, it partakes of the quietness and calmness of the elements, and when it is brought back to its fastenings, it does not come with its hair matted to its very skin with the driving snow, but bearing a few loose flakes that readily yield to the brush or the comb. Animals so protected require less food, are better natured, take on more flesh, and give a greater growth than those exposed in the most moderate manner to rough, grating winds. A. Bacon.

Richmond, Mass., Dec. 25, 1867.

For the New England Farmer.

THE GARDEN IN JANUARY.

The main part of our gardening during this mouth will be done in the house, as the ground in our northern climate is frozen and mostly covered with snow; yet there are a few things which may be appropriately looked after; and with this view the garden should be occasionally visited to see that nothing is going wrong. Sometimes during a January thaw water will do damage by standing on, or washing over the surface. This should be avoided. During heavy snow storms, trees are often so loaded with snow, or during rain and sleet, with ice, as to break them down, or otherwise injure them. Small trees and shrubs are often ruined at such times. A little attention in gently clearing them of their overloads will often save a favorite shrub or valuable tree.

An open gate, or a rail out of place, will often admit some farmer Don't Care's stray creature; and perhaps half a dozen young pear, or other fruit trees are destroyed in consequence, besides injuring other vines, shrubbery, &c. Such ill-cared for, hungry animal will often do damage, in a garden, in a few moments that cannot be repaired in a year or more, to say nothing of the ill-feeling engen-

dered. It is then best to guard against any such casualty, by having all fences, gates, &c., closed, and in order, that lead to the garden or orchard.

Much labor and time may be saved by planning to facilitate work in the spring. A man who has his plans laid before hand will accomplish a greater amount of work in a given time than one who works by no plan, order or system. During these long winter evenings is the time to lay plans for the coming season, and not only that but it is the time to improve the mind and lay in a store of information in regard to our pursuits. There are quite a list of works devoted to the subject of gardening in all its branches, as also those devoted to the farm; any one of which will impart much information. And then we have our agricultural journals, all of which devote more or less space to the garden as well as a larger one to the farm and other branches of husbandry. Procure some of these and occupy a portion of the time that is usually spent idly or at the store, or in worse places, in gaining useful information in regard to your business. If you have heretofore neglected the garden, resolve on the threshold of this year of grace, 1868, to turn over a new leaf and have a good garden, to produce the various vegetables and small fruits which go so far to promote health, and relieve the monotony of dishes so frequently found upon the farmer's table at certain seasons of the year.

Having but few special directions for the garden this month, the space may be appropried to some general suggestions. Among the various desirable requisites of a garden is shelter; a moderate slope descending towards the south-east or south, to a level. In such a location we usually have a variety of soil, ranging from light, early and warm, to that which is more heavy and later; and consequently we can have a succession of vegetables which may be more varied than can be had on a level. In all gardens it is better to have some windbreak or protection from the cold winds. Besides the protection afforded by tight board fences, walls, &c., from high winds, they are often a means of greatly retarding frosts. If you have ever taken the pains to observe, you may have noticed that plants standing near to the protecting side of a close fence or building, are frequently preserved from frosts that kill or very much injure those standing away from the influence of such protection. To understand the why and wherefore of such occurrences, we should understand the laws that govern the atmosphere in all its circumstances and variations. As air becomes cooled, it is condensed and seeks a lower level. Thus it will be found that while frost may be indicated at the bottom of a hill, at the top there may be a temperature of several degrees above the freezing point. A fence or other obstruction checks the flow of the undercurrent of air which walls up as water does against a dam; so that while plants on one side of the fence may be frozen, those on the opposite side may be unaffected. This fact may be proved by any one, by making a hole through such fence against a plant, and observing that while others standing a few feet at the right or left will not be frozen, the one standing before the opening will be frozen to the size of hole in the fence. To the inquiring mind it is interesting to study into all the works of nature, and to behold in them the hand of Him who rules over all; and without whose notice not the least sparrow falls to the ground.

Cold frames should be examined as frequently as the weather permits, to see that all the plants for spring culture therein are doing well. During thaws and mild weather they may be uncovered and light and air admitted freely. Hot bed frames and sashes should be put in order by making any needed repairs of painting, glazing, &c., and new ones made, ready for early spring use. Every garden should be supplied with one or more hot beds for starting early vegetables.

WM. H. WHITE.

South Windsor, Conn., Dec. 26, 1867.

NORTH CAROLINA TEA.—A barrel of tea was recently sent from H. C. Davis, of Bedford, N. C. to the New York Institute Farmers' Club, a part which was distributed to the members. This is said to be the same as the Yuba Mate, or Jesuit tea of Paraguay, which is largely used in Brazil, especially in the mining districts. The natives ascribe almost innumerable qualities to it. Like opium, it produces some singular effects; giving sleep to the restless, and spirits to the torpid. A pint will make a gallon. It is drank hot, and is a preventive of intermittent fever. Molasses and milk add to its goodness, and the cost of this tea is from 40 to 50 cents a bushel.

NEW ENGLAND POULTRY CLUB.—At the recent annual meeting of the Worcester, Mass., Poultry Club, it was voted to change the name of the association, and extend its field of operations, as above—including in future exhibitions all the New England States. The following officers were elected for the ensuing year:

President—O. B. Hadwin; Vice Presidents—Geo. Sumner, S. J. McIntosh; Secretary and Treasurer—S. E. Thompson; Asst. Secretary—Winslow S. Lincoln; Executive Committee—H. Woodward, O. L. Hatch, Alba Houghton, Jr., S. Woodward, H. L. Stowe, H. S. Taintor, C. W. Hamilton.

MILK RAISING.

We observe in the papers reports of the proceedings of a meeting in Boston of persons engaged in producing milk. The apparent object is, to take such action as shall increase the price paid the farmer for his milk at the barn or depot. We believe in meetings for discussion, and for the diffusion of knowledge. Farmers necessarily are scattered, and so have not the advantage which manufacturers or even mechanics enjoy of comparing views and acting in concert. Such meetings, therefore, if properly conducted, may result in much good, yet they are liable to lead to much evil, or what is more probable, to end in no practical or valuable result.

Demand and Supply.

We must remember that the price of farm products, as of everything else, is governed by the great law of demand and supply.

To use a homely illustration, if ten men are in a party remote from home, and there are but nine hats, hats are in great demand; but if there chance to be eleven hats for the ten heads, hats are abundant and nobody wants the spare one. A certain amount of milk must be used, varying of course, to some extent with the price. If much more than the usual quantity is produced, nobody will buy it, except at a low price. If the supply is short, hotels and babies must still have their milk, even by paying double price.

A combination among farmers that they will sell no milk under fifty cents a can, might compel the contractor to pay that price for a very short time, until others outside the combination could undersell, as they surely would very soon. At that high price, the production of milk would be doubled in six months, and as neither hotel customers, babies, nor anybody else, could be persuaded to use double quantities, there would be an over supply, and the farmers would undersell each other, and force the price below even a fair one.

What is a Fair Price?

A fair price for a producer to receive, is the price that will, in the course of the year, pay him fairly for the cost of maintaining his cows, including the interest on their value, the loss by depreciation and accident, and reasonable pay for his care and labor, taking into account the return he gets in the manure left on his farm. And this is also a fair price for the contractor to pay. A fair price for the contractor to receive in the city, is to be estimated in the same way. He has heavy investments for horses, wagons and perhaps railway cars and ice-houses. He pays largely for his milk-routes, and employs many men for whom he is responsible. He guaranties payment to the farmer, and takes the trouble and risk of collecting pay of his customers. To do all this well demands a man of business capacity more than ordinary, who could earn a good salary in other business, and he is entitled to be paid accordingly. We are apt to look only at the profit such a man is making and to think he gets more than his fair share, when in fact he is paying us more than an inferior man could pay us and yet lose money in his business.

How shall the Price be Fixed?

The complaint is that the contractor fixes the price, and the producer has no voice in the matter. This is no doubt often true. There being no concert of action, no meetings even of the producers, the contractor can do no otherwise than fix his own price, and the producer must take it or cease supplying milk. It seems to us that a meeting of the farmers and the appointment of a small committee, small enough to be efficient, to represent the producers and advise with the contractors as to the price for each quarter of a year, might produce good results. The interest of all parties is to fix the price which the laws of demand and supply would determine, neither too high nor too low, and producers would feel far better satisfied, even at old prices, if they thus had a voice in the matter. Beyond this, we do not see that much can be done. Combinations to raise the price of produce or labor usually result in little good, while consultation and temperate discussion and action may serve the good of all parties, including farmer, contractor and consumer.

Salt and Lime as Manure.—Mr. George Steele, of Thorndale, Chester Co., Pa., who is on a farm which was exhausted and its cultivation abandoned seventy-five years ago, but which has been reclaimed from barrenness by an improved system of treatment, in which lime has been extensively used, informs the New York Farmer's Club that salt has a very beneficial effect on his land as a manure for wheat. The primitive rock is talc slate, and the soil gravel, clay and loam. The salt and lime have been applied after ploughing, and

harrowed in; the lime spread with a shovel or lime spreader, as soon as slaked, while in a powdered condition, and the salt sowed broadcast, or mixed with the lime before spreading, or the lime slaked with brine. From his experience and observation of the effects of salt on this land, he estimates one and a half sacks of merchantable ground salt, or an equivalent of dirty salt, and 25 bushels of lime per acre, as good for wheat as a moderate dressing of stable manure, and the grass after the wheat is as good, where the salt and lime are applied, as where the stable manure was applied.

For the New England Farmer.

MARES AND COLTS.

AN ESSAY READ BEFORE THE CONCORD, MASS., FARMERS' CLUB, NOV. 14, 1867.

BY HON. JOHN S. KEYES, OF CONCORD.

At what age and in what condition are mares best suited for breeding? How should they be treated during gestation? What is the best management of colts until they are three years old?

Breeding is a science of which but little is known, and that little but poorly practiced. Most of it is done in a loose way, without much attention to anything but convenience, and the results are what might be expected,—uncertain and profitless. When proper care and attention is bestowed, animals may be bred almost to order, and among the large and experienced breeders in Vermont, New Hampshire, and Maine, colts of almost any size, shape, color and qualities are raised as wanted. Of course this requires a knowledge of the science, a care for every detail, and an expense in the selection of the stock that are alone consistent with making this a business, and following it as any business must be pursued, to make it a success.

For our purposes, in this discussion, three questions only are to be answered, and all others need not *now* be considered. To the first—the best age and condition of the mare for breeding—there is but one reply: in the prime of her years and finest order. But to this reply, there are many limitations of cost, profit and convenience, which will materially modify the answer, according to the circumstances of each case. For farmers who wish only to raise a colt occasionally, either for their own use or for sale, we must be governed by the convenience to our work and the cost of the trial. We cannot take the family mare from her work of all kinds on the farm and give up her use for nearly if not quite the whole season, to get a foal, without supplying her place at an expense not warranted by the profit. If she gets injured by an accident, or used up by many seasons of hard work, we are too apt to put her to breeding, as the best use that can be made of her, though there is more certainty of getting poor stock in that way, than of any profit. But we can do this, and it is, under all the conditions, the best plan: let that filly have a foal before she is put to work. This is the real secret of successful, pecuniary result in breeding horses. Every filly breeds before working in all those sections where raising colts is followed. It is the best time, in my judgment, at from three to four years old, depending on the size and maturity of the animal. It saves them from being worked at too young and tender age; and it imparts to the offspring all the vigor the mother naturally possesses, unimpaired by any of the hardships or strains she may undergo in work. It develops her own frame and bodily powers, and, if well kept before and during gestation, with no injurious results. Such a filly that had been kept growing her first three years, without stint of good, nutritious food, with great freedom of range in the pasture, and roomy, well ventilated stalls, and moderate exercise during the winter, if put to a horse in the prime of his powers, say from seven to twelve years old, could not fail of bringing as good a colt as she ever would produce from that horse at any age. Indeed, I believe a better, or one that I would rather take my chances with, than of any born later in life, after the mare had worked even on a farm, to say nothing of stable or city use. The colt then would be weaned and the mare ready for breaking and use at from four to five years old, and be worth more than if she had never bred, besides paying all her keeping to that age, with the one good colt thus raised.

As to the second question, mares should be treated during gestation as naturally as possible, whether by this is meant either the actual time of birth or the whole period of bearing. Their work should never be severe or long continued, and their keeping such as would supply both mare and foal with ample nourishment. Too high condition might not be better than moderate order, but it would be vastly preferable to any stinting or scanty fare. In the event of breeding at the earlier age, three or four years old, they should be at pasture all the season would permit, and in the winter should have no work, only moderate exercise, to keep them growing constantly.

Breeding later in life, after the mare has been worked, she should be kept at grass as much as possible, and if required to work, great care should be taken to prevent any over-work, or undue exposure, and the feed should be liberal to support not only the mare but the foal. With care and good treatment, the colt may not suffer or be any the worse for the use of the mare during the earlier stages of pregnancy, but no such tax as hard work and breeding can be imposed on any animal, without injury. For some time before the birth, she should be at pasture if possible, and

if not, should have a box stall and a yard for exercise, and entire freedom from restraint in her motions, by tying, &c. Generally speaking, no other or peculiar care is required than nature gives the mare the instinct to seek for herself, though if we artificially interfere with this instinct, we ought to provide as nearly as may be the natural conditions of the animal.

Third. The foal being born, for a few weeks needs no care but the mother's, though if it is accustomed to being handled and caressed from the very first, it will be easier to break. It is well, too, to let the colt accompany the mare in the light work she may do while nursing, as it thereby gets accustomed to the objects that it is to be familiar with afterwards, and to learn more early the great lesson of obedience. Good pasturage for the mare, and freedom, are the best for both, as it is the most natural. As soon as weaned, and when conveniently situated, even earlier, the colt should be broken to the halter and taught daily, with patience and gentleness, some of the many lessons it has got to learn. Too much care and kindness cannot be used, and the great majority of the faults of horses are the results of faults of the owner, in breaking. Good feed, sufficient to keep the colt steadily growing, rowen, roots, and green fodder, with but little grain, where these can be obtained, are the best.

The different processes in bitting, harnessing and accustoming the colt to vehicles and use, should be gradually, but steadily pursued, and above all things it should never be frightened or allowed to break away from control. The more of this that is accomplished the first year the easier and the better it will be. The same management should be followed the second year. As fast as size and strength will permit, more attention should be given to what is too much neglected, the paces. These can be taught in the second year better than perhaps any other time, and a wonderful change can be made in the walk, trot, canter or gallop of a colt, if proper care and attention is used. Natural defects cannot be wholly overcome, but almost as much may be gained in these as in other particulars by thorough and systematic training. This is a matter too much neglected, and many a horse has a very uncomfortable gait all his life, from want of training. He can neither walk without breaking into a trot, nor trot without breaking into a canter, and if urged, or if left to himself mixes up these different paces to the great annoyance of the driver. The great rule to be observed in this training is to keep the several paces entirely distinct. When training, the walk should be first practiced, and this should be made as rapid as possible, without breaking. He should first be permitted to trot a few steps and then walk. And when he has learned to walk well and rapidly for his size and figure, trotting should be attended to, and in trotting the same rule should be carefully observed. Keep him trotting while the lesson lasts, and never allow him to slack into a walk any more than break into a canter. There is nothing gained by being in a hurry to make the colt show speed in trotting. Patient training without anxiety on the point of speed, will make a much faster horse, than over urging at first. Still a colt should, after being taught to walk fast and trot steadily, be occasionally pushed to his speed in trotting. This should be done for only a very short distance at first, while it may be gradually increased as the power and stamina of the animal increase. If it is desired to fit him for use under the saddle,—a practice that has increased immensely since the war,—he should be taught as soon as he can bear a light weight on his back, (not too young for fear of injury,) the best saddle gait in the same way as the other paces. And as before, and always, the greatest pains to be taken to keep these distinct from each other.

Although a colt should be thus broken, handled, driven and ridden before three years old, still too much care cannot be used to prevent over-exertion, and permanent injury therefrom. Two or three miles a day, with a light carriage, is the outside work such a colt ought to do; and as this is so generally done in the village or neighborhood, if not always thought about, the distance is very apt to be exceeded before the driver is aware. Of course, while thus training, attention should be paid to the habits of stopping at the word, and not starting till the signal is given; of how much weight should be borne on the bit, and of all the other things which go to make up a pleasant driver.

As I said at first, if a filly at three years old, I would breed from her and raise a colt, suspending the training and using during so much of the time as would be likely to interfere with the growth of the fœtus, and parturition, and the first weeks of nursing.

I have thus given my best answer to these three questions. I shall be satisfied if they provoke criticism or elicit discussion, and thus set me and the other members to adopting the right course. J. S. Keyes.

Concord, Nov. 14, 1867.

WESTERN NORTH CAROLINA.

The climate of this section much resembles that of the North-Eastern States, though it is neither so cold in winter nor so warm in summer. The reason of this is found in the fact that though we are in the 35th parallel of latitude, we have an average elevation of more than 2000 feet above the sea. Though we are in the latitude of the cotton-growing belt, yet we are elevated many hundred feet above it. This secures us at all seasons one of the finest and most bracing atmospheres found east of the Pacific slope. Hence it is that we are strangers to all miasmatic diseases.

It is known to almost all the natives of this

country, that at a certain elevation on our mountains, there is a *stratum* of atmosphere so peculiarly constructed, and so dry, that it will not permit the formation of frost. When a farm is located so far up on the mountains as to be above the region subject to spring frost, we say it is above the frost line. Orchards so located never fail to bear full crops on account of spring frosts. The peach, in these situations, sometimes fails from the destruction of fruit buds by winter-killing, though this is unusual. I am not aware that the apple ever fails at this elevation, even from this cause.—*L. F. Sensabaugh, Waynesville, in Country Gent.*

NATIONAL ASSO. OF WOOL GROWERS.

ANNUAL MEETING.

The Executive Committee of the National Wool Growers' Association met at Pittsburg, Nov. 26. The following officers were elected for 1868.

President.—Hon. Henry S. Randall, LL.D.. of New York.
Vice Presidents.—The Presidents of the State Associations.
Secretary.—Wm. F. Greer, of Ohio.
Treasurer.—A. F. Wilcox, of New York.

The constitution was so amended that each Association may appoint two additional members of the committee, and until elections are made, the following gentlemen were appointed:—

Norton S. Townsend, Ohio; John D. Wing, New York; J. H. Pickerell, Illinois; J. D. Hazelton, Wisconsin; John H. Davis, West Virginia; Burditt Loomis, Connecticut; Henry Keyes, Vermont.

Mr. Delano, of Ohio, offered the following resolution:—

Resolved, That a committee of three be appointed by this Association, with power, at their discretion, to arrange with the National Wool Growers' Association for a National exposition of their respective industries at such time and place as may be agreed upon.

The President informed the Association that he had held some correspondence with the officers of the National Association of Wool Manufacturers on the subject of holding a National Exposition of the wool and woolen interests of the country at some place, say Chicago, in the spring of 1868—each Association being empowered to designate such objects of exhibition as it shall deem expedient. The Manufacturers strongly favored the measure, and would make prompt preparations to carry it out on a splendid scale should this Association invite their co-operation. They decidedly preferred Chicago as the place of holding the Exposition. He (the President) believed that a general exhibition of our sheep, wool and woolen manufactures would be attended with the most beneficent effects on the respective interests at large.

After a free discussion, in which fears were expressed that the trouble of transporting stock might prevent a creditable show, the resolution was adopted and the following gentlemen were nominated and elected said committee:—Henry S. Randall, of N. Y.; John D. Wing, of N. Y.; A. M. Garland, of Ill.

The following were reported by the committee on resolutions, separately considered and adopted.

1. *Resolved*, That the financial necessities of the nation render a tariff for revenue purposes indispensable, in order to pay our national obligations and preserve our national honor.

2. That in regulating duties on imports, Congress should exempt such articles of general necessity as are not produced in this country, and should so adjust duties on other articles as to give fair and equal protection, as far as practicable, to all products of American industry.

3. Considering the compact, extensive and persistent efforts of the free trade interest to destroy American industry and weaken our national resources, it is the duty of all the industrial interests of the nation to unite in a common effort to counteract this foreign free trade policy.

4. We regard the present duty on wool and woolen goods as well adapted to promote and harmonize the true interests of producers and consumers of wool and woolen fabrics; we therefore have full faith in the ultimate results of the tariff, and insist that it be neither modified nor repealed, until time shall have fully demonstrated its effects.

5. That the "interests of wool manufacturers and wool growers being recognized as identical, further measures should be adopted to make each class familiar with the respective wants and necessities of the other."

6. That the National Association of Wool Growers take great pleasure in expressing their thanks and gratitude to the Congress of the nation for passing, at its recent session, the existing wise and necessary tariff for the protection, increase, and development of wool growing and wool manufacturing interests of the country, and that we have every confidence this legislation will be stable and permanent, to the end that business arrangements already made in conformity to it may be encouraged, and a great branch of national industry advanced and protected.

The President, Hon. C. Delano, and Gen. White, of Pennsylvania, were appointed a committee to prepare an address to the wool growers of the United States in reference to their present condition, interests and necessities.

A resolution was passed authorizing the President to appoint Hon. R. M. Montgomery, of Ohio; Hon. E. B. Pottle, of New York; A. M. Garland, of Illinois, one or more,—as he may deem necessary,—to represent the wool interests at Washington.

In convention the general interests of the Wool Growers were discussed at considerable length after the adjournment of the Executive Committee.

—The squirrels have almost disappeared from the woods in South Carolina since the war.

EXTRACTS AND REPLIES

CHEESE FACTORIES.

As people are making all kinds of inquiries through your valuable paper, from what will make the hair grow on a bald pate, to what will prevent toe-nails from growing in, we should like some information in regard to the manufacturing of milk into cheese, by a factory.

We cut a good amount of hay, suitable for keeping cows; have the best of pasturing, and can keep cows as cheap as can be done in any other place in New England.

Will you, or any of your correspondents, give us any intelligence upon the following questions? and, more if you choose, will be gratefully received.

1. What will be the cost of a medium sized factory, fitted up with an eye to economy, all ready for business, with lumber at ten dollars per thousand, and labor at two dollars per day.

2. The milk from how many fair cows, or how much milk, will it take to commence busines with?

3. How is the milk received, when and how paid for? When is the cheese usually sold? And in fact how is the business done?

4. What amount of help will it take to run the concern?

5. How many months in the year will the milk be required, usually?

6. How have the profits generally compared with butter making, all things taken into account? such as the milk for hogs and the extra labor of making butter. More inquiries hereafter.

A. J. MITCHELL.

Lempster, N. H., Nov. 25, 1867.

REMARKS.—From a report in the *Boston Cultivator*, it appears that the capital invested in eight factories in Massachusetts was last year as follows: Barre Central, $7800; Barre, South, $5053; Hardwick Centre, $4213; Hardwick, South, $4500; Petersham, $3000; New Braintree, $8000; Warren, $4600; South Adams, $3000.

Of forty-one factories from which full returns were made at the annual meeting of the American Dairymen's Association last year, the average number of cows was 458 to each factory; the smallest being 140 and the largest 1049. Some account, however, is given of a factory at Pleasant Prairie, Wisconsin, with 75 cows, and of one in Medina, Ohio, with only 64.

The milk is sometimes delivered at the factory by farmers; at others, it is collected by agents of the factory.

Further answers are furnished by a correspondent of the *Vermont Farmer*, who says, "a cheese factory has been recently erected in the Northeasterly part of Orwell, and is of the following dimensions: 30 by 90 feet, and three stories high, with steam boiler and fixtures sufficient for making and curing 1000 cheeses. Cost of building and fixtures, $6000. The milk from 300 cows has been used this season and 60,000 pounds of cheese made. At first, the size of the hoops was 18 inches diameter and 10 inches deep; but the managers finding that cheese made in a smaller hoop would sell at a higher rate, they have since used those 15 inches by 10 deep. The object has been to imitate cheese made in Chedder county, England, and it has been made to resemble, in color, good butter made in June. The cheese made this season has been mainly consigned to White and Douglass, 76 Broad street, N. Y., and has been sold at 15 to 15½ cents per pound. Manufacturing commenced June 17 and ended Oct. 22.

H. B. Jones and wife, formerly of Pawlet, have managed the manufacturing, and have received for their services 90 cents per 100 pounds of cheese made. Net receipts to those furnishing the milk, about 11 7-10 cents per pound."

TO DESTROY LICE ON CATTLE.—NORWAY OATS.

Mr. J. Jordan inquires what will kill lice on his cows. Smoke them with tobacco. A few cents' worth will do the job for several head of cattle. It is the cleanest, the safest, the cheapest and the surest remedy I know of. Smoke them thoroughly at first; then in about a week go over them again, and the lice are all dead, nits and all.

I wish to inquire about the "Norway Oats." If they are as good as recommended, they are the ones I wish to sow. I sow two and a half bushels to the acre, and usually average 50 bushels, or 20 from one of seed, of 30 pounds each. Now if by sowing one bushel of Norway oats I can get 100 bushels weighing 10 or 12 lbs. heavier per bushel, and if they are as good for feed and to sell, I go in for that kind. Will some one who has had experience with them inform me. One who is not anxious to sell them at forty cents per pint.

GEORGE R. JENNESON.

Walpole, N. H., Dec. 7, 1867.

REMARKS.—We have never raised the Norway Oats. We have seen a fine specimen of their growth, in the possession of agents for the sale of the seed, but know nothing further of them than our correspondent does.

EVERGREENS FOR SHELTER.

Will you allow me to suggest, as a subject for discussion in your columns, the importance of screens of evergreens, not only around our buildings to protect them from the cold blasts of winter, but around our bleak fields to break the dry and parching winds of summer, and thus to enhance the practical value of our farms, as well as greatly to increase their beauty and attractiveness. I think such a discussion, if properly conducted, would be very acceptable and profitable.

We have native evergreens, such as the red cedar, white pine, &c., sufficient for this purpose, but few know how to propagate them from seed or by transplanting. I find there is not one man in ten about here, and they have always lived in sight of the white pine, that knows its seeds; and a larger proportion do not know whether the seed of the cedar will germinate in a few days or weeks after planting, or whether it will lay in the ground through winter before coming up. Now, if you will enlighten us on this subject, we will try to profit by it and extend your circulation.

ONE OF THEM.

Davisville, R. I., Dec. 7, 1867.

REMARKS.—We call upon some member of the great NEW ENGLAND FARMER'S Club, who has had practical experience in the cultivation of evergreens, to "lead" in the discussion of the topic propounded by "One of Them." In the meantime, we copy from the *New England Homestead*, the following statement of the singular effect on pota-

toes of shelter from the strong, east wind, which accompanied a warm rain last summer.

"Last spring a farmer in Mittineague, Mass., planted potatoes on the east, south and west sides of a field of corn. The soil was wet and hot, most of the season. The potatoes had a good growth, and promised a fair crop,—but while yet in good growing condition, and nearly fit for harvesting, there came on a heavy and warm rainstorm attended with a strong east wind. In a day or two after the storm, the potato vines on the east and south sides of the corn began to wither, and in a very few days, they were dead. The potato rot soon found its way to the tubers, but on the west side of the field, the potatoes sheltered from the wind by the corn, were vigorous, and continued green till fully ripe. Who knows how much that driving rainstorm had to do in blasting that field of potatoes exposed to its fury? Are our warm east winds the sirocco that produces the potato rot?"

PROPAGATION OF SALMON AND TROUT.

It may be gratifying to your many readers who are interested in the restocking of the American rivers with fish, to learn that the first salmon of the season hatched to-day.

They are a part of the lot which were placed by the New England Commissioners at the Cold Spring Trout Ponds, at Charlestown, N. H., to be hatched for the Connecticut river.

The eyes of the embryo salmon were first clearly seen in the egg about the 25th of November. The eggs were taken from the parent salmon on the Miramichi river, on the 10th of October, which gives 62 days for the period of their incubation.

The first trout which broke shell at these hatching works, this season, made their appearance on the 9th of November, 35 days from the time when they were taken from the breeders—being the quickest time on record for trout in this country.

LIVINGSTONE STONE.

Charlestown, N. H., Dec. 11, 1867.

DOMESTIC TRAINING.

The hints of "Mattie" on domestic training I regard as appropriate and timely. Children naturally wish to help and make themselves useful, and it seems to me that parents often make a great mistake in repressing this laudable ambition. Parents should begin early to lay the foundation of future usefulness in their children. This is of great importance to the child, and is one of the first duties of parents to their offspring. I have often thought that if it was in the power of parents to give their children opportunity to acquire but one branch of education, it should be the domestic training that will fit them for the discharge of the many duties implied by the term domestic, or home education—a knowledge of those little everyday occupations which each one must perform in making his or her way through this checkered life.

The next branch should undoubtedly be book education. And fortunate is that child whose parents combine in its training these two branches in just proportions. Parents of large means are liable to injure or spoil by over indulgence, or exemption from labor, children that are naturally good. Especially, I think is this true of their daughters. A home is or should be our highest ambition. But unless she who presides over its domestic affairs, understands the duties of her position, how long can she retain the respect due to the mistress of the house? Unless a woman is familiar with every detail of housework, in all its numerous branches, how can she make home what it should be,—what she herself would have it to be? or how can she properly direct others? Where I find the kitchen and wardrobe in good order, I expect to meet a lady; one who is such in the best sense of the word. Ability to fold one's hands properly in a parlor, to talk smoothly or flippantly of anything or nothing, to apologize genteely for not singing or playing on account of a bad cold, or to make calls ever so systematically, do not of themselves constitute the lady,—certainly not the woman, whose children shall rise up and call her blessed, and whose husband shall find in his home attractions and comforts which will satisfy and content the mind.

"Mattie" has spoken a good word on the domestic training of the girls. If the subject is "to be continued," may I hope she will not forget the domestic training of the boys? O. FOSTER.

Tunbridge, Vt., Dec. 1, 1867.

REMARKS.—There is one branch of the domestic education of both sexes, to which we wish to call attention—the care of the sick. That young man or young woman who enters upon life with little or no knowledge of this subject, lacks an essential qualification for usefulness. That celebrated physician, Dr. Rush, used to say that the knowledge gained by three months spent in the kitchen by every doctor before setting out in practice, would be found to be among the most valuable of his attainments.

IN THE BLUES

Do you not, Mr. Editor, sometimes have the *blues?* I know you are a very even-tempered man, and much given to looking at the bright side of things. But don't you sometimes feel, in your private heart, that affairs are going topsy-turvy, and inside out, and every way but the one you hoped and strove for, and had a reasonable right to expect? If you do not, then I should like once in a while to borrow (though I don't like the too common practice of borrowing,) a little of your faith and trust, a little of your clear-sightedness, to enable me to see through the clouds that sometimes intercept my view.

This is the way the world wags, now and then, here in Doolittle Dale.

One acre of potatoes (Sebecs) was planted early, with the intention of getting them to market while the price was pretty well up. Manure, a compost of lime, salt and peat, was spread on the furrow and harrowed in,—with Wilson's superphosphate scattered in the drill at the time of planting. Field on a sloping hill-side; soil a good and deep sandy loam at the lower end, changing to gravelly loam in the middle, and at the highest part a poor sand with very little loaminess. The potatoes came up well, and made a fine promise for the first six weeks, then began to show rust, and stopped growing. The result was about fifty bushels of good potatoes—best in what we called the poorest soil. There was no rot in this field. When ready for market, the price was about $1.75 a barrel.

Another acre of Sebec potatoes, planted later than the above, barn manure spread liberally, looked well the whole growing season; but when harvested, were at least half rotten.

A half acre of New Jersey Peach-Blows, barn manure ploughed in, also promised a good crop, but the potatoes were hardly worth digging, yield-

ing only about a bushel of marketable potatoes to a row twenty rods in length. No rot.

In all the above cases, large potatoes were used for seed, cut, two to four eyes on each piece, and planted in drills. JONATHAN DOOLITTLE.

Massachusetts, Nov., 1867.

REMARKS.—Our friend Jonathan asks if we ever have the "Blues?" Yes, we reply, and every sentient being has them in greater or less degree. That frame or state of mind is a part of the imperfection of our mortal condition.

But "the Blues" may be warded off in a great measure by the exercise of a little philosophy. Being "blue" did not add a single bushel to the scanty crop of potatoes, nor in any way prepare the mind or body of Mr. Doolittle to avert such a result in the future. We must be on our guard. The "blues" are contagions. Do you not remember Zimmerman's story of the nuns, one of whom began to mew like a cat? Hour after hour, and day after day, she traversed the gloomy aisles of the nunnery, mewing like a cat in distress; or if she turned to the right or the left, where the cheering sunlight found its way into the rooms, still that dismal and distressing mewing went on, until the whole sixty or seventy nuns were mewing like so many cats. So it is with the "blues." Exorcise the fiend at once, potatoes or no potatoes!

By the way, some persons say,—"anybody can be a farmer." Let them solve your difficulties about the potato crops, if they can. And ours, too, for we are in the same category. Indeed, who can solve them? Who is so great as to do these things?

But, friend, be of good cheer. Add to your many virtues a firmer faith, a calm resignation, a confiding trust that all is for the best, *when we have done our best.*

BOOKS ON SCIENTIFIC FARMING.

Are there books on the sciences, as Geology, Chemistry, &c., that a farmer can study and learn more of the nature of the soil, manure and crops with which he has to do; or, in other words, which will enable him to become more of a scientific farmer? Now I think that farming generally is not what it should be; that it is looked upon by a great many as a dirty, drudging, hard-working life, instead of a healthful and most independent business; for, who but the farmer feeds the world?

If farmers were better educated, or I will say more suitably educated for their work; as well and as suitably as are the lawyers, doctors, merchants and other professions, perhaps farming would be more of a pleasure, more successful. Agricultural colleges may succeed in training young men for farmers, but not every one is so situated that he can go.

Have you, or any of your readers ever tried the American cow milker? Does it draw the milk clean? How does it work in cold weather?

Bridgewater, Mass., Nov. 30, 1867. Y. F.

REMARKS.—Books, why, yes, dear Young Farmer, (Y. F.), there are books on every subject and on every branch of every subject. "And further, by these, my son, be admonished: of making many books there is no end; and much study is a weariness of the flesh."

After the good Book, from which the above thoughtful and suggestive sentence is quoted, we will recommend Webster's Unabridged Dictionary, as "a work on geology, chemistry, &c."—especially the "&c.," "that a farmer can study." Then we may mention—well, we don't hardly know what to say, as every year brings something new,—and better, of course, than anything else,—in the form of elementary works and text books. Neither do we know what progress you have made—what books you have read, or what are your habits of reading. Few can ever hope to be accomplished geologists, chemists, botanists, physiologists or naturalists. Either requires a life-time. Men who have grown gray in the study and practice of either one of these sciences often feel like comparing themselves, at a ripe old age, and when exciting the wonder of their contemporaries that "one small head could carry all they know," to the youth who has gathered a few pebbles on the sea-shore, while the great ocean of knowledge lies unexplored before him.

On the farm and off the farm dissatisfaction, unrest and murmuring are prominent characteristics of our race. All ages and all sexes are seeking and grasping for rights and positions, for knowledge and wisdom which they do not possess. It is not on the farm alone that our "waters cast up mire and dirt." Farmers undoubtedly are not educated as well or as "suitably" as they should be. Neither are "lawyers, doctors, merchants and those of other professions." Could you look into the mind of your doctor or your lawyer, and see what a Scotch reel Doubt and Irresolution, Ignorance and Uncertainty are sometimes dancing there, while with a calm countenance and deliberate, *knowing* words he proceeds to diagnosticate your disease, or to unwind the intricacies of your case, you might see reason to pity him and to congratulate yourself. Verily, "all things are full of labor; man cannot utter it: the eye is not satisfied with seeing, nor the ear filled with hearing:" nor, it may be added, is the mind content with knowing.

Still it is a privilege and a duty to improve our opportunities and faculties. We don't believe that a little learning is a dangerous thing, or that because we cannot expect to be thorough chemists, geologists, or botanists, it is lost time to learn the difference between an acid and an alkali, between granite and slate, or between radicles and stamens. The ordinary school-books on these subjects will probably be as good as any that can be procured. Don't read fast. Don't skip or slight or be provoked by the hard words. Those not familiar with the Greek and Latin from which they are derived will need some patience to hunt up their definitions in the dictionary, but when once fixed in the memory, and their expressiveness well understood, the Lepidopteras and the Exogens will become as familiar as the Morus Multicaulis of the days of the silk fever, and give

you a new interest in the butterflies, and their four gaily painted wings, and in the bark, pith and stem of the vegetation by which you are surrounded.

FARMING.—TWIN HEIFERS.

It requires considerable knowledge to carry on farming successfully, and if we learn from others, it will, as a general rule, cost less than to learn by experience, which, according to the old adage, sometimes charges high wages for tuition. The suggestions received through the columns of the FARMER are of great value to some, especially to young farmers like myself; and I hope people will not be diffident in imparting such knowledge as they may possess. Those that receive benefit will at least be thankful.

I have a pair of twin heifers, and have been told by some that both would not make good cows, or that one would be inferior to the other. Did they tell the truth? H. G. SMITH.

West Mansfield, Nov. 18.

REMARKS.—Not of a certainty. We have recently seen two or three pairs of heifer twins, which are being raised because they promise great excellence. Our correspondent probably alludes to the opinion which has prevailed among breeders from time immemorial, that when a cow produces two calves, one of them a *bull* calf and the other a heifer calf, that the female, to which has been given the curious name of Free Martin, will be barren. The old Roman writers on agriculture allude to them as *taurœ*, intimating that they had something of the bull about them. Mr. Youatt, in his treatise on cattle says, that Mr. John Hunter, of England, an accurate inquirer spared no pains or expense to ascertain the real foundation of this belief; and he availed himself of the opportunity of examining three of these free-martins. In all of them there was a greater or less deviation from the external form and appearance of the cow; and in the head and the horns some approach to those of the ox; while neither of them had shown any propensity to breed. The teats were smaller than is usual in the heifer; but the outward appearance of the bearing was the same. They were slaughtered, and he examined the internal structure of the sexual parts; he found in all of them a greater or less deviation from the form of the female, and the addition of some of the organs peculiar to the male; and he ascertained that they were in fact *hermaphrodites*. It is not then a mere vulgar error that the female twin is barren. On the other hand, there are several well authenticated instances of these free-martins having bred. An anonymous writer in the *Farmer's Magazine*, for November, 1806, describes a free-martin belonging to Mr. Buchan of Killintringham, that had a calf, and was a handsome beast, with a well-placed udder, and was a good milker. The same gentleman, however, had another free-martin which never bred. Another writer in the same Magazine, November, 1807, says, "on the 11th of November, 1804, a cow of mine brought forth two calves, one a bull, and the other a cow calf; and in spring last the female twin produced a very good male calf; yet a neighbor of mine assures me that a female twin belonging to him never would take the bull, and was sold on that account to the butcher at the age of four or five."

It would hence appear that the rule is, and a very singular anomaly in natural history it is, that the female twin is barren because she is an hermaphrodite; but in some cases, there not being this admixture of the organs of different sexes, or those of the female prevailing, she is capable of breeding.

But in case both of the twins are heifers we are not aware of any facts which justify the apprehensions of our correspondent.

BLANKETING HORSES.

Many times I have taken my seat to pen a few lines for your paper, but have as often deferred the accomplishment of my purpose. The subject that I now propose to write upon is the winter care of horses. From what little experience I have had in taking care of them, I have come to the conclusion that a team of horses is better off not to be blanketed. Two years ago I had two horses, and kept them blanketed all the time, save when they were on the road. They both had frequent colds, run at the nose, and shivered when coming in contact with the cold air. When taking them out of the stable, in the morning, to water, with the blankets off, they would tremble like an aspen leaf. Last winter I did not put a blanket on to either of them, and I did not see any signs of a cold, nor did I see one of them tremble after drinking. Even when I came in with them quite warm and sweaty, at night, I could see no inconvenience from not blanketing them. Now, hoping that some more abler pen than mine will take up the subject, I submit the foregoing as the result of my experience. C.

Surry, N. H., Dec. 1, 1867.

MILKING ONCE A DAY.

I would ask through your valuable paper, if it is as well to milk cows only once a day, as twice, through the winter months? Whether you can get as much milk in milking once as twice, or whether it is hurtful to the cows, or has a tendency to dry them quicker? If it is just as well to milk once, it will save time and labor in cold weather.

Franklin, Mass., Nov., 1867. J. JORDAN.

REMARKS.—There is no doubt on our mind that milking the cow only once in twenty-four hours would have a decided tendency to dry her. On the contrary, milking her three times would have a tendency—it might be slight—to increase the quantity of milk. Nature is usually generous in attempting to supply the demand made upon her. By high feeding and frequent milking, many cows can be made to yield for ten or eleven months in the year.

SITTING HENS AND STERILE COCKS.

One of our correspondents at North Easton, asks us several puzzling questions on the above topics.

What we wish to say to him first is, "that sitting hens *have their ways* as well as anybody;" and that some of these ways are just as much past finding

out as why a pig's tail curls instead of hanging down straight, while a cow's hangs down straight and does not curl! And the next is to send to Williams & Co., 100 Washington St., Boston, and purchase Bennett's Poultry Book, wherein he will find a treatise on the breeding and general management of domestic fowls, and pretty much all the information to be had on the subject. By studying it carefully, we have no doubt he will save chickens enough next spring to pay for the book several times over. It will tell him all about changing roosters and the management of sitting hens.

CHERRY AND APPLE STOCKS.

How long may cherry on Mahaleb, and apple on Paradise stocks, be depended upon for sufficient fruitage to warrant one in retaining them? Late works on fruit culture strongly recommend the cultivation of these dwarfs, but leave the reader much in darkness on the point named. What has experience taught in the matter?

Why not, in mulching young trees, remove the soil for a sufficient depth, then put in the mulch and cover it with three inches of earth? Would not this materially aid in retaining the moisture, and at the same time prevent the mulching from being disturbed by winds, as well as present a less inducement for the harboring of mice, &c.? If a lead trough of *sufficient size*,—one capable of holding *enough* kerosene oil,—and properly roofed, be put around apple trees, would it not be a perfect guarantee against the ravages of canker worms?

T. W. S.

REMARKS.—To answer our correspondent briefly on this point, we should say, "long enough *to* retain them." They are set; let them remain and operate with other stocks in other places. His question can only be answered intelligently by some nurseryman or orchardist, of much experience and observation. Perhaps some of our "knowing ones" will answer.

His views on mulching are undoubtedly correct. It will be more labor, but a better job.

Troughs filled with oil and properly roofed over have been repeatedly used to prevent the access of insects,—but where they are numerous, they bridge over the oil with their bodies and some of them pass on. If not carefully attended to, spiderwebs, leaves, sticks, dust, &c., sometimes afford the means of passing. Besides this, the operation is a very exact and expensive one, which few only could afford.

BEAN STRAW.

I asked some questions in your paper a few weeks since about this article as food for cattle. From your "reply" I gathered that it might be of some value when green, but worthless when dry. But notwithstanding this, I gathered all my pole bean straw and hung it in the barn to dry. I have just cut up some of it and boiled it. The water used for boiling I used partly to moisten shorts, and partly I mixed it with fresh water and gave to my cows, and they drank this water with great eagerness. The straw I gave moist to the cows and they eat it up clean with great relish. I don't know that it would be practicable for farmers to prepare this food for cattle in this way, but if it contains eight per cent. albumen, as it is said, it must be of considerable value. I shall certainly save my bean straw another year. Every little in the right direction helps, and every increase of cattle food from a source like this, when hay is $25 to $30, and shorts $35 to $40 per ton, must be of some value.

INQUIRER.

Massachusetts, Nov. 25, 1867.

REMARKS.—Further allusion to the value of bean straw will be found in the article headed "Cooking Food for Animals" in another column of this paper.

GOOD STEERS.—CROPS AND PRICES IN RUTLAND, MASS.

I frequently notice in the FARMER accounts of good cattle which I take great pleasure in reading. There are a pair of yearling steers, raised and owned in this town, which I think deserve mention in your columns. They are grade Durhams, spotted red and white, nearly alike, well matched and of good form, and weighed at one year old 1430 lbs.; and at one year and seven months, (Oct. 8, 1867,) 2075 lbs. They never have had any but common keeping and are not fat.

I will give the prices of some articles of farm produce in this vicinity, commencing with good hay, which is worth, at the barn, $20 to $22 per ton; straw, $10 to $15; potatoes, $1 to $1.25 per bushel; corn, $1.50 to $1.62; oats, $1; pork, 10c per lb; apples, per bbl., $4 to $5; cattle, yearlings, $15 to $30; two-year-olds, $25 to $40. Cows and oxen are not as high as one year ago, there being more of them for sale.

Potatoes were poor, not more than half a crop. Corn not as good as last year. Oats light. Hay crop good. The above may interest some of your readers in other places.

A READER OF THE FARMER.

Rutland, Mass., Nov. 25, 1867.

POULTRY.

The *Country Gentleman* has an article on "What Breed of Fowls shall we Keep?" and gives the experiments of the writer with various crosses. The conclusion arrived at is as follows: "After all, we came to the conclusion that for ordinary purposes, Dorking and Brahma hens, with a Dorking cock, gave us the best results. For eggs, the hens must be young; for mothers, rather older." We are never tired of reading all that is written on fowls, and now and then get some valuable hints therefrom; but after all, the poultry breeder must act on his own judgment as applied to his own particular case, and cannot govern his conduct by the experience of others in this particular unless he knows all the circumstances of the experiment. The Dorking is a good fowl, and makes a good cross with the Brahma, but we much prefer the grey or white Brahma, or the Marsh fowl, to any other breed. They are quiet heavy, thick feathered for winter, good layers, particularly in cold weather when eggs are most valuable, can be housed and kept contented as easily as cattle, and their eggs are large, and their meat is good for the table. The Leghorn is a good layer except in cold weather, but they are *birdy* in their nature, and love to roam. The Black Spanish are also good layers, but like the Leghorn, they are rather tender, we think, and like to have room enough. Most any hen, if kept clean and warm, and properly fed, will pay enormous interest on her cost. We have had many varieties, but we have come to the conclusion that the gray-necked Brahma or white Brahma, or the Marsh fowl which is like them, only of a speckled brown color, are the best for our purpose. They must have better accommodations than the lighter fowls which can fly easily

about the pen, for they always prefer to jump rather than depend on their wings, when leaving their roost or nest, and are therefore more apt to get injured than many other fowls. They prefer to use their legs for all purposes of locomotion, and if you give them a chance, always to do that by proper walks and laaders, they will seldom get hurt although they are so heavy and clumsy. When killed for the table they will always look well, and weigh well, and we have never found any trouble in *eating* them.

We may at some future time say a word or two upon the manner of keeping fowls. The essential rules in our opinion, are few and easily followed. It is pretty much all summed up in this—they must have a clean warm coop, always clean and fresh water, free and pure air, sound and pure food, plenty of shells and lime, occasionally vegetables and meat, and sand baths in abundance. Other treatment is medicinal, and will generally be but little required, if these other rules are strictly complied with. They will keep cleaner and healthier with less care, and do much towards their own support, if allowed to roam at large about the grounds. But if confined in pens, and the pens are always kept carefully cleansed and ventilated, and the droppings often removed, and the earth frequently renewed, they will do well enough anywhere. INQUIRER.

November, 1867.

SEASON IN WASHINGTON CO., VT.

Winter has set in with great severity up here among the mountains. November 5th, the ground was covered with snow followed by the most intense cold ever known, perhaps, so early in the season—thermometer falling below zero in many places. The snow has not all disappeared since, and we have been obliged to feed our cattle and sheep almost every day since. This will no doubt be for the benefit of the mowing lands, but some may need more fodder this winter than they anticipated. We had about a week good sleighing in November, since which time we have been obliged to use wheels till yesterday, December 10th, a little more snow allows us to venture on runners again. This morning, December 11th, the thermometer is twenty degrees below zero.

Roxbury, Vt., Dec. 7, 1867. W. I. SIMONDS.

AGRICULTURAL ITEMS.

—For chapped hands wash the hands, and without using the towel, apply a small quantity of honey once a day and rub in well.

—In Canada most of their pork is fatted on peas, six bushels of which are equal to ten bushels of corn, and more can be grown from an acre than of corn.

—Ireland sends large quantities of butter to England. Of 3500 firkins in the Cork market, 789 were of first quality, 1922, second, 729, third. The price of the best was about 35 cents a pound.

—There has been a considerable falling off the present year in the Irish flax crop. The total acreage under flax in Ireland in 1866 was 263,507 acres; in 1867, 253,105 acres: decrease in 1867, 10,402.

—"The California Live Stock Assurance Company," is the title of an association recently organized in San Francisco. Geo. Treat is President, and W. Augustus Knapp, of San Francisco, Secretary and Actuary. Capital stock, $200,000, with 2000 shares of $100 each. It is understood to be the object of the Company to insure animals against death from any cause, to the extent of three-fourths their actual cash value.

—As an evidence of the depression in wool and sheep matters, an Ohio farmer recently said: "Three years ago I put $2000 into Vermont sheep, and now I cannot get $500 for them.

—A San Francisco paper looks forward to the time when grapes from California, by the Pacific Railroad, will be retailed in the Atlantic States States for five cents a pound.

—Our emigrants from the Southern States to Brazil say that the country is good for cattle, sheep, sugar cane, coffee, cotton; in short, good for everything except one's family.

—A newspaper item says the worst cases of chilblains may be cured by covering the affected part with old linen, either by lining the stockings or otherwise.

—It may surprise many to learn, what is nevertheless a fact, that fully one-third of the whole amount of sugar consumed in the world is manufactured from beets.

—The French Minister of Agriculture has issued a decree regulating the practice of surgical operations on the living horse and reducing them considerably.

—The Hardin County, Iowa, *Ledger*, says that raising sorghum is "played out" in that section, as there is too much work and dirt for the little sweet. This season few crops of it have matured in this section.

—Dr. Boynton speaks of visiting, while in Texas, the lands of Herbert Langston, a wool grower, comparatively a new comer, who brings with him an Australian experience, which ensures his success in his chosen business in this country.

—A joint stock company has been established in Australia with a view of boiling 10,000 sheep per week into tallow. The increase of sheep and cattle in Australia has been immense since 1830. Then the number was under 400,000; the number is now nearly 35,000,000.

—Dr. J. R. Nichols, editor of the *Boston Journal of Chemistry*, says that lard is adulterated to an extent hardly suspected by dealers and consumers. He has recently examined specimens which contained 30 per cent. of water, terra alba, paraffine, and other substances.

—A short time since as some boys were playing hide and seek in the barn of Wm. B. Kennison, of Norridgewock, Me., one of them crawled in behind the hay mow to hide, and came upon a hen's nest containing one hundred and eight eggs, all good and sound.

—The Portland *Argus* says Maine furnishes beanpoles for all England, and Trenton and Ellsworth are her principal representatives in this

branch of commerce. During the current year over one million poles have been received in this city from those places. They sold at an average price of 30 cents a dozen.

—A farmer in Clinton county, Iowa, tells of cutting 35 tons of timothy hay from 15 acres—receiving $350 for this amount.

—A correspondent of the *Gardener's Monthly* says he tried six varieties of strawberries last season and found the Hovey's Seedling to produce the sweetest and highest flavored berry.

—An Ashtabula Co., Ohio, farmer is now engaged in buying sheep, believing they are a good investment at present prices. In one case recently he was allowed to pick 50 young ewes out of a good flock of several hundred, at $1.25 each.

—At the Government Experimental Farm, at Washington, 576 varieties of cereals and garden vegetables were tested this year. Among these were 109 varieties of wheat, 20 of oats, 10 of corn, 29 of grass seeds, and 36 of potatoes.

—A large deposit of phosphates has been discovered near Charleston, S. C., which it is believed is destined to add immensely to the wealth of that section, as it is said to be equal in value to Peruvian guano.

—Mr. A. Hoover, of Lockport, Indiana, counted the kernels on an eighteen-rowed ear of corn, which weighed a pound and two ounces, and found them to amount to 1142 sound and plump grains. Some, a thousand fold.

—To remove warts from horses, the *Maine Farmer* recommends passing a considerably large needle with two threads through the centre of the wart, and tie the threads securely on each side of its neck, and let the threads remain until the wart can be rubbed off.

—The New Orleans *Picayune* proposes to increase sugar culture in Louisiana by separating the business of cultivation from that of milling the cane. The land could then be divided into moderate farms, which should be united by tramways with sugar mills in the center of each district.

—A correspondent of the *Western Rural* says that crib-biting in horses is no "vicious habit," as generally believed, but simply an instinctive effort to relieve pain caused by the teeth of the animal being crowded together, and that the proper remedy is to run a very thin file between the teeth which press together.

—The reason why a man lost in the woods invariably travels in a circle, constantly veering to the left, is said to be because the right side of every human body, except in the case of left-handed people, is more developed than the left; consequently the muscles on that side are strongest, and tend to gradually throw the whole body round, unless the aim is directed to some particular point.

—The London *Globe* says a man named Charlier thinks the notion that horses need shoes entirely wrong. He himself does not cut a horse's hoof. He merely protects it against violent blows and accidents, and against the wear and tear of the city pavements, by inclosing it in a thin circle of iron, which wards it from danger without compressing it.

—A correspondent of the *Maine Farmer*, after travelling extensively in Europe, says that in Switzerland, Eastern France and Prussia, he was struck with the adaptation of the beech for a thin but effective hedge. It branches little, is stiff and keeps its place. He saw but little that was killed or injured by dry seasons. He thinks it may be used here with much success, making a beautiful hedge, if care is used in shortening in.

—A correspondent of the *Western Rural*, who has had experience in raising and feeding Hungarian grass, says that if cut as soon as it begins to blossom, it is prime hay for any kind of stock. If the seed is allowed to mature, it should never be fed to horses or colts. It will either kill or stiffen them up in a short time. It is a very exhaustive crop if allowed to ripen the seed, but makes fine feed for neat cattle.

—The committee on scoured fleeces appointed by the Illinois State Agricultural Society, have recently made a report of an elaborate trial of wool cleansing, with results which are but the repetition of those which have been reached by New York and Vermont trials. They think no new facts can be established or good accomplished by further trials—wool growing tests—and recommend the discontinuance of premiums on scoured wool.

—The Trustees of the Pennsylvania Agricultural College have decided to locate the Experimental College Farm in the county of Chester, provided the citizens thereof will give five thousand dollars as a bonus for this mark of preference. The *Germantown Telegraph* thinks this will please the Chester county people, but hints that unless the managers of the farm are wide awake they will be excelled in products and management by many of the farmers in that county.

—Between Cleveland and Sandusky, and within one-half mile to a mile of Lake Erie, and near to railroad stations, as good grape land as any in this grape region can be had for from $50 to $75 per acre, not wild land but improved, with some buildings, orchards, and, in some cases, several acres of grapes started. The soil is clay, mixed with slate—what is called shale—and is as good land for grapes as can be found this side of California.

—In France, milk is packed in small tin cans, easily moved by one man, and by a simple contrivance the stopper screws close down upon the contents of each can, so that the motion of the railway cannot churn the milk *in transitu*. The cans are then placed in covered wagons, and in summer are wrapped in cloths, which are watered

from time to time so as to promote coolness by evaporation. The result of this care, which costs but little, is that the milk supply of Paris is proverbially excellent.

—The Nashua, Iowa, *Post*, is responsible for the statement that Capt. O. O. Poppleton of Richland township, Chickasaw Co., raised four hundred and five and ¾ bushels of oats—thresher's measure—on six and a half acres of land. He used about twenty-one bushels of seed. He estimates that he fed at least eight bushels in the sheaf before threshing—making a total of 413¾ bushels, or a little over 63 bushels to the acre. The lard has been tilled over ten years constantly without any fertilizing whatever.

—A correspondent of the *Country Gentleman*, went through his orchard some time after the marketable fruit was gathered and picked up a large load of rotten apples—there was not among them a bushel that had anything sound upon them, and many of them had been rotten for weeks. These were made up as usual. The juice at first was quite bitter and unpleasant. It was put into the cellar where it remained until spring, then removed to an outhouse and left until fall, at which time the bitterness had all disappeared, and it was a pure, pleasant tasted vinegar.

—"Take this flower pot;" said the President of a meeting in France lately; "what is the meaning of this small hole at the bottom?—to renew the water. And why to renew the water?—because it gives life or death—life, when it is made only to pass through the bed of earth, for it leaves with the soil its productive principles, and renders soluble the nutritive properties destined to nourish the plant; death on the other hand, when it remains in the pot, for it soon becomes putrid, and rots the roots, and also prevents new water from penetrating." This is the real theory and illustration of draining.

SALT AND LIME FOR HAY.

On reproducing in the Boston *Journal of Chemistry* the letter which he wrote for our columns, last August, in reply to the inquiries of E. L. Metcalf, Esq., as to the chemical effects of the mixture in preserving hay, Dr. James R. Nichols, adds the following note:—

It will be understood from the above, that lime and salt are incompatible substances, so far as by their chemical changes any special preserving or antiseptic properties are secured. Partially cured hay, treated in the mow with these articles, is practically unaffected by their presence. How then does it happen that green hay is preserved, when it has been applied? In the experiments made, it is probable the hay would have cured equally as well if the mixture had been withheld. Two mows of the same hay, stored under precisely the same conditions, one with the salts, the other without, would undoubtedly be found alike in the spring. We have long entertained the idea that hay is cured too long in the field. If grass is mown in the morning, *after the dew is off*, it may with safety be stored in barns, in the afternoon, provided the day is clear and warm. The influence of dew upon grass after it is cut and lying in the swath, as affecting its preservation in the mow, is imperfectly understood. We intend to refer to this subject again.

ILLINOIS INDUSTRIAL UNIVERSITY.

The trustees of this institution met at the University buildings in Champaign, November 26. Perhaps the title of this institution is more expressive of the broad purpose of Congress in donating land than that of "Agricultural College," which most of the States have adopted as the name of the institution or "department" on which they have conferred the national bounty, inasmuch as that Act provides that the Legislature of each State shall use the fund for the endowment "of at least one college where the leading object shall be,—without excluding scientific and classical studies, and including military tactics,—to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the *industrial classes in the several pursuits and professions of life.*"

To show what the Trustees of the Illinois Industrial University are doing to accomplish this liberal and comprehensive purpose, we condense from the reports of their Finance and other committees, and from the general proceedings of the Board, as published in the *Prairie Farmer*, the following facts.

From the report on finance, we learn that from 280,000 acres of script sold, $160,192.41 have been realized,—a little over 50 cents per acre. The Treasurer was authorized to sell 100,000 acres more of the land script at the rate of 90 cents per acre. Of the 25,000 acres which have been located in Minnesota and Nebraska, at an expense of $1300, Mr. Emery Cobb, chairman of the committee, says it is believed that these lands will, in a few years, bring from $3 to $5 per acre. A vote to locate 25,000 more acres was also passed. The total expenditures made thus far for all purposes is $25,622.40.

Exclusive of the "University lot," the institution owns about one thousand acres, near the site of the college. The committee on Agriculture recommend the sale of 400 acres of these lands, leaving 410 acres for stock farm and tree planting, 160 for the experimental farm, and 35 for horticulture.

The committee on Library and Cabinets recommended the appropriation of $20,000 for these purposes, including the purchase of the collection of Prof. Bromley, of the college at Marietta, Ga., which was shipped to New York at the breaking out of the war, where it has remained in store until this time, when it is offered for sale at $6000—the best judges in the country estimating its real value at $15,000 to $20,000. It embraces some 30,000 specimens, correctly named and labeled. After discussion, however, only $4000 were appropriated for cabinet purpose.

During the discussion of the subject of appointing a Farm Superintendent, Mr. Dunlap proposed that the superintendency of the farm should be devolved on the Executive Committee, instead of the Regent and Professor of Agriculture, as recommended in the report of the Committee on Agriculture.

Mr. Dunlap said that the Regent was appointed to take charge of the educational interests of the institution. The Professor of Agriculture is, and always will be, a myth. There will be Professors in special departments, such as Chemistry, Geology, Entomology, &c. There will be something of Agriculture and Horticulture taught. All these together will make up the education. The Regent should attend to the educational interests alone. The Executive Committee was the proper authority to rule over this farm, and determine its management.

The Regent, the Rev. J. M. Gregory, replied by saying:—

The great aim of the institution is to teach agricultural science, and to advance it by means of the experimental farm. It has a double use in this way. There is such a thing as an Agricultural Professor. One has just been chosen for the Cornell University, New York. One had already been recommended to him for this University. If the farm is a wheel in the machinery of the whole education, it must be under the supervision of the head of the Institution. The farm must give illustrations if not practice.

Mr. Dunlap's views about restricting the duties and power of the Regent met with no support. It was argued that there must be one head to the institution; that the Regent was the chosen man for that position; that the farm was where a large part of the agricultural and horticultural education of students must be obtained; that its lessons would be as much a part of the instruction as the lectures in the school room; that it was to illustrate the theories taught from text-books and by lectures. It was further urged that the Executive Committee could not be in session but at stated intervals, while the Regent would be there at all times for counsel and assistance. It was thought by some of the members that the proper Professor of Agriculture could be found.

The question of manual labor by the students of the University was left for the decision of the Committee on Faculty and Courses of Study.

A farm Superintendent, with a salary of $1500, with house rent, was appointed. Prof. W. H. Baker, principal of the High School at Springfield, and Prof. G. W. Atherton, formerly at St. John's College, Annapolis, were elected to chairs hereafter to be named with salaries of $2000 each.

The opening ceremonies of the institution are to take place on the eleventh of March next.

ON EATING PORK.

About once each year, near the time when the farmer has dressed the swine which he has been feeding for a twelvemonth, some persons commence a tirade against the use of pork as food. Whether these persons have been using pork grown upon the garbage of city gutters, or whether they have indulged in a surfeit upon that which was good, does not appear, and the reasons why they declaim against its use are no more apparent.

Most swine in New England are fed upon grain of some kind, skim milk, buttermilk whey, boiled potatoes, scraps from the table, and, during all the growing season, with fresh weeds, and short, sweet grass. To these are added, during the season of fattening, pumpkins, squashes, carrots and other roots, boiled and mixed with various kinds of meal. Salt is occasionally given to them, and in some cases pork and beef scraps from which nearly all the fatty matter has been extracted by pressure. They have clean and comfortable sleeping places, and although they sometimes wallow in the mud in hot weather to get on a coat which protects them from the flies, they are neat in their habits when properly treated.

There is no reason apparent to us why their flesh is not as wholesome as that of any animal used as our food. We have always used it freely, and have found it just as easy of digestion as beef or mutton. The principal reason, we think, why many persons speak against it, is that they eat *too much* at once! It is so delicions when properly cooked, and well sustained with cranberry sauce or currant

jelly, that a pound or two at one meal, would be quite likely to bring on some *grunting*, or a night-mare during the hours of sleep. Taken sparingly, morning or noon, it will be found nutritious, easy of digestion, and exceedingly palatable to most persons. We have, more than once, expressed the opinion that our people eat too much meat in warm weather,—that once a day is often enough. There is, however, a great difference in persons in this respect; some, even in childhood, always preferring animal diet to vegetable, and others preferring the vegetable; and this preference continues through life, and if not gratified the health seems to suffer. Hall's *Journal of Health* has a sensible article on eating pork, in which our views are well expressed, as follows:—

"There is no trouble in eating pork in a cold climate. It is needed—or some fatty meat, for the support of life, while at the South vegetable diet is better. But whether the hog should be eaten, depends on the manner in which he is kept. If he be kept as a mere scavenger on filth and rottenness, the meat would be unfit to eat, as its food must enter into its composition. We see this in the difference between the hogs fed on acorns and those fed on corn. Any animal that lives upon the filth and waste of cities, should be rejected as food. But if the hog can be kept cleanly and on proper food, pork is as healthy as beef, or poultry, or fish.

For the New England Farmer.

JERSEY COWS.

AMOUNT OF BUTTER FROM "LADY MILTON."

Messrs. Editors:—In the Monthly Farmer for December, I notice a communication from Mr. Barker, in which he compares the product in butter of one of his native cows with that of a Jersey owned by Mr. Brown of this town; and if I mistake not a slur is aimed at "blooded" stock. If the question of the superiority of breeds for yielding the largest profit in butter-making is to be decided by reports or comparisons of this sort, I wish to give the Jersey's a fair show, and am therefore induced to report the product of a full blood Jersey cow, *Lady Milton*, on my farm. She is six years old, and dropped her fourth calf, (a heifer,) on the 15th of May last. Her product in butter, from June 1st, was as follows: In June, 64¼ lbs.; July, 79 lbs.; August, 70¾ lbs.; September, 65 lbs.; October, 1st week, 14¼ lbs. After the first week in October she was no longer tested, because the grass in pasture had become short and very poor. Her feed during the time of trial was, in June and July, grass in pasture only; afterwards she had, in addition, a feed of green fodder corn at night, pretty regularly, and sometimes in the morning. No grain of any kind was fed.

Thus much for quantity. But *quality*, as well as quantity, is to be considered, in getting at the profits. Some may, and doubtless do say that Jersey butter is no better than that of native cows, while others, (and their number is increasing,) think it much richer. Of course there will be more or less variation in this respect with all breeds, and much depends upon the feed; but in comparing the average, on the same feed, my experience and observation lead me to the belief that the cream and the butter of the Jerseys are decidedly the richer of the two. But there is no better criterion on this point than the price obtained in market. I have sold mine through the summer at 75 cts. per lb., and I know of others who have sold at this price for a long time, in close competition with the best native butter, at from 40c to 50c. It is, in my judgment, safe to say that all the pure Jersey butter, *well made*, will command a higher price than native, by 25 per cent., the year round.

I admit that Lady Milton is an extra Jersey cow for quantity, though not the only one around here by any means. I know of others about her equal. I have several others that will produce weekly more butter than Mr. Barker reports. The average, under the same treatment, would tell the truth, if we could get at it. And it ought, in some way, to be ascertained, for the question of the most profitable breed for butter is altogether too important to remain an open one, subjected to the fancy or whim of amateur farmers on the one hand, or to the flings and ridicule of those who wish to make the most of a cheap cow on the other. It seems strange to the writer, to say the least, that any intelligent, observing farmer can have failed to notice that where our native cows have been skilfully crossed with blooded sires, such as, for instance, the Shorthorns or Herefords for beef, the Devons for working oxen, the Dutch or Ayrshire for milk, or with the Jersey or Alderneys for butter, great improvement has taken place in the quality and value of the animals thus produced. I am not alone in this view, and if it is an erroneous one, it is important we should have the facts to prove it so. J. C. C.

Spring Hill Stock Farm, Arlington, Dec. 16, 1867.

For the New England Farmer.

TRIMMING PINE TREES.

Gov. Brown:—Although unable to write, in consequence of lameness in my hand, I will attempt to dictate a few hints upon this subject, as you requested me to do when here a few weeks since.

In the first place, great care must be taken to avoid bleeding. While the circulation of

the tree is comparatively dormant, say from November to February, I have found to be the most favorable season for trimming. While the wood is frozen the saw runs easier and clogs less, and although some object to trimming trees when frozen, I regard this as the most favorable time, if done with care. When trimmed at this season, there will be but little flow of sap, and the ends of the limbs will be seared over in the spring, by the time the circulation is active, when fresh wounds bleed badly.

In the next place, great care should be taken to avoid wounding the tree unnecessarily. Rough usage is the main cause of the prejudice against trimming pine trees. The axe or hatchet should never be used, even when the limbs are dead and comparatively brittle, as the bark on one side or other of the limb knocked off is almost sure to be bruised. The limbs should be carefully sawed off in all cases.

From my experience, I find there is little use in trimming trees which stand alone and exposed to the sun and weather. The pine should grow in clusters, or the trunks be shaded by other trees.

The work of trimming pine trees should be commenced while they are quite young, but the limbs should not be removed until they show signs of decay, or, rather, evidence of having fulfilled the purpose for which the lower limbs were designed.

To illustrate the advantages resulting from judicious trimming, I will mention the following facts. Twenty years ago one of my sons trimmed a tree which was then about five inches in diameter. This fall ten boards from this tree were exhibited at the Mechanics' Fair in Lowell, which contained 100 feet, board measure. Six of these boards, three from each side, were clear stuff, worth at least $60 per 1000 feet. Rather more than one-half of the four inside boards was also clear stuff of the same value. The central part of these four boards was knotty and worth about $22 per 1000 feet. Consequently over three-fourths of the 100 feet were worth 6 cents per foot, and the remainder 2 cents and 2 mills per foot. If the tree had not been trimmed, nearly or quite the whole of the lumber would have been worth only the latter sum.

In this fast age, the rapid growth of pine timber on fair land is too much underrated. When a boy, I remember of going into the woods with an older sister, to get the top of a small pine for a distaff. My sister stepped upon a rock, near which pine trees were growing, and pulled the top of a straight, thrifty one towards her, for the purpose of cutting off the top; but finally concluded not to, as the tree was so handsome, and took her distaff from a smaller bush. That tree is still growing, and was recently estimated by good judges to be from 90 to 100 feet high, and to be sufficient to produce 1000 feet of good lumber and one cord of firewood.

In order to form an opinion of the time necessary to trim trees nine feet high, I once timed myself on a dozen, which were situated about 40 rods from the house, and found it took me fifty-five minutes to trim the twelve trees, including the time spent in going to and returning from the lot. B. F. CUTTER.

Pelham, N. H., Dec. 18, 1867.

For the New England Farmer.

THE CLOSING YEAR.

"Ring out the old—ring in the new."

The close of the year has been so often improved as a fit occasion for moralizing and sermonizing, that it is rather hazardous to attempt to write on a subject so worn and exhausted.

I have no sympathy with those writers who regard the later months of the year as gloomy and sad, and peculiarly admonitory, because it is the season of the faded and fallen leaf; because the birds and flowers have departed, and because we have so many tokens of approaching winter; greatly preferring the more cheerful and rational views of H. W. Beecher and "Essecker" of Salem.

It is true that the decline and passing away of succeeding years remind us of the decline and passing away of succeeding generations of men; but the established order of nature and of Providence, which ushers in new years and new beings, only on condition that the old shall pass onward, has in none of its operations aught that can properly be regarded with regret or sadness. The silent forces of nature, under the direction of our great Ruler and Benefactor, have lent their kindly aid and cooperation to man in elaborating an ample harvest, and now rest, because their work is done, and well done. To the husbandman who did not neglect to plough by reason of the cold, or to hoe by reason of the heat, there comes no unpleasant sequel to the fact that "The harvest is past, the summer is ended."

What though the dark clouds should lower, and the storm should come with angry, threatening winds, how impotent and harmless do they appear to those who have full barns, granaries and cellars, with secure defences for themselves and their herds.

Delightful in their season are the songs of birds and the trilling of insects; but the pleasure which their music affords is enhanced by its intermission, that its cadence and echo may linger on the ear and in the memory till it again returns. Beautiful in their season are the flowers of spring and early summer, but the essential beauties which they represent and shadow forth are confined to no season or place; and are as omnipresent and immortal as the Divine Mind in which they originated. We have seen nature in the graceful attire of spring, in the full dress of summer and the brilliancy of autumn; we may now, with more hallowed pleasure, enter her hyemal temple

and behold the sublimer beauties of her statuary.

Some of the last days of the year are its best days. Ardent summer, murmuring and resounding with busy life, has passed away, and is succeeded by many of those tranquil and lovely days that add such a grace and charm to the fading year. If the sensuous and material world seems to have receded, we are more than compensated by the proximity of the supersensuous and the spiritual. Whence is it, that when during one of these quiet days, we seek some favorite retreat where the world seems hushed to silence and attention most profound, as if in the presence of some mighty orator about to speak, whence comes to us that hallowed pleasure—that indescribable emotion? Are not the invisible drawing near in spiritual communion?

The year is passing away. Well, let it pass, and with it all that is effete and useless; and let the new year put on more freshness and vigor, and in due time let "Revived earth unfold new force and new delights." The year is expiring; and let ancient wrong and venerated error die with it; and let truth and right be the watch-words of the coming year.

"And Isaac went out to meditate in the field at the eventide." As to the day, so to the year there is an eventide; and who does not feel that neither the day, nor the year, nor the life of man, would be perfect without its eventide. Happy are they whose meditations at the eventide of life, are not embittered by the reflection that their seed-time and summer were unimproved. I. B. HARTWELL.

Wilkinsonville, Mass., Dec. 19, 1867.

WHITE CLOVER IN GEORGIA.

A correspondent of the Southern *Cultivator* writes as follows: "I have enjoyed the pleasure of a visit to one of the highest peaks of the Appalachian chain of mountains immediately on the line between East Tennessee and North Carolina. For miles along its summit, and far down its sides, the most luxuriant growth of white clover completely covered the ground, filling the air with its fragrance, and affording the richest and most abundant pasturage for hundreds of cattle, sheep and swine, literally "rolling in fat" without an ear of corn or anything, save the rich herbage upon which they luxuriated with all their native fondness, requiring only the care of a shepherd to keep them within proper bounds. Calves of but a few months old looked like "yearlings," and from one cow running at large with her calf, I milked at least two gallons per day, for our pleasure party, consisting of nearly a dozen ladies and gentlemen. One hundred miles farther South, I have had several acres well set in white clover, without sowing a seed, by simply letting the land lie out. My milch cows grazed on it until Christmas, yielding richer and more milk and butter than when fed as cows usually are. Nearly 100 miles still farther South, I now have white clover that grew in many places this summer "knee high" on pipe-clay land, springing up spontaneously, whenever allowed the privilege of doing so. The second growth salivates or "slabbers" horses, but does not cattle or hogs. It grows finely with herds grass, affording a heavy swath of hay at the ground."

From Hours at Home.

THE WEEK OF INDIAN SUMMER.

The earth now rests from all her fruitful works;
Her golden week of Indian Summer glows
O'er all the land—the Sabbath of the year.
The sun slants low along the Southern sky,
The fine gold of his summer beams grow dim.
The clouds no longer heave their Alp like forms,
But thinly o'er the pale blue heavens spread.
O'er viewless, Western verge the thickening haze
Pours slowly in the atmosphere of dreams.
The hills, upon whose russet-slopes now lie
The latticed shadows of the leafless woods,
Afar in cloudlike masses melt away;
The winding stream autumnal rains have filled
Through woodland, glade, and rural homes, and roads,
Through fields all brown, and Winter-during green,
Moves slowly on in gleams from curve to curve
Like languid opening of a dreamy eye.
Save muffled echoes of the distant gun,
And interrupted peck of bird on limb
And hollow trunk, a buzz of blundering bee,
No sound disturbs the deep repose of earth.
From height to height the crow flies heavily;
And o'er the valley's gulf of wavering haze
The hawk, slow-scanning farm and field below,
In dreamy circles floats. Against this steep
And wood-browed hill, the warm and mellow air,
As from the wind-swung curtains of a tent,
Beats fitfully. A pale and shimmering light—
A last sweet smile as of a dying saint,
Plays softly o'er the wan and quiet earth.
Nor hills, nor woods, nor fields, though bare and brown
Are sad, but all rejoice in works well done.
The leaves have builded for their race of trees
The measure of a genial Summer's growth,
And at their feet are mingling with the dust.
The orchard trees, droop low relaxed limbs,
Unstiffened yet against the wintry storm.
October winds have sown the winged seeds
Of weed and flower; and by the streamlet's marge
The golden rod still bends o'er aster blue,
But bloom and glory's gone, by beat and chill
Of dark October rains.
As once of old
"God saw that it was good," and took his rest,
So year by year, through Nature's work, he does
The same, and in some week of warmth and light
Earth dreams her fruitful Summer o'er again,
And rests in peace as of a day of heaven.

LIVE-FOR-EVER, FOR INFLAMMATION.—Live-for-Ever is invaluable for inflammation—such as broken breast, sore eyes, &c. It is simply crushed and laid on, covered with a soft cloth. Mixed with camphor and lard, it works wonders with inflamed or caked bags in cows. I have known an obstinate case relieved by one application, gently but thoroughly rubbed in, so that the next morning the milk was running from the teats.—*Mrs. R. U. Sherman, New Hartford, N. Y., in Country Gentleman.*

PEANUTS have been raised in several parts of Iowa this year. They are as easily raised as potatoes, and a much surer crop.

STRIPED JAPANESE MAIZE.

The above is perhaps as good a representation of this beautiful plant as can be made by mere printer's ink and white paper. Its long wavy and gracefully recurved leaves, however, striped with the clearest white and the brightest green, occasionally showing faint tinges of rose color at the edges, as painted by nature, are quite another thing, and for groups on the lawn or for a back row in the flower-border, few plants are more imposing, effective and grand than the ornamental Japanese Maize.

It is a native of Japan, and was obtained by Mr. Thomas Hogg, in the Japanese gardens, and sent to this country a few years ago. It has been exhibited at the shows of the Massachusetts Horticultural Society for the two or three years past. Though a variety of Maize, it differs in many other respects than beauty

of foliage from our common Indian corn. It grows from five to six feet high, and has alternate foliage; the leaves being about four feet long and two to three inches wide. Like our common corn, it is of easy cultivation. To produce, however, early plants, it is well to sow the seeds in a pot in the house, or in a hot-bed, planting out in the latter part of May. By July 1, the plants will attain the height of three or four feet, and show their magnificent foliage. If planted in the open air, it should be sown about the 20th of May, and in a warm and rich soil.

CURIOUS THINGS ABOUT FROST.

One morning in October, I found all the tomato and pumpkin vines used up and killed by frost. But the bean vines, the potatoes and the cabbages in my garden were in fine growing order still. Three weeks afterward, frost came again, and not finding any more tomatoes and pumpkins, he laid hold on my pole beans and my potatoes. They turned black and died, as if strangled. An old farmer said that this frost that killed the potatoes was a "real black frost."

"Ha!" said I, "black frost, white frost; do they ever mix?"

"You watch and you'll see the difference," said the old farmer.

And I began to watch. The cabbages in my garden were not killed yet. The chickens have a wonderful good time nipping off the thick edges of the big, tough leaves. Well, I watched, to see what the frost would do next. One morning I noticed that the bridges and board walks were white as snow, but the dirt roads, gravel walks, and stone sidewalks could not show a single fleck of frost. And I saw that there was no frost on or near the spikes in the board walk, but were spots instead.

Yet I remember, one winter day about noon, when things were thawing a little, that the board walks all dried off, leaving a spot of frost on every spike, and all the stone walks and dirt roads were cold and hard as ever with snow and ice! Every fall the boards are frosty, while the spikes and stones are warm and wet. Every spring the boards are warm and wet, while the spikes and stones are frosty! Funny frost!

One day the good woman who cooks for us made some doughnuts; some folks call them fried cakes, (they are good, no matter what they call them,) and when she had done frying them, she set the hot lard out at the door, along side of a basin of water to cool. The lard and the water both of them froze solid that night, and the next morning I saw that the frost had made a *hollow* in the lard and a *hump* on the water! Frozen lard shrinks, frozen water swells! Funny frost, how you do act. And out in the barn on a beam, I had one bottle with castor oil in it, to oil my carriage wheels, another with neat's-foot oil for my harness, and another bottle half full of water. They all froze up solid, one cold night, and the water bottle split. But the others did not.

Off the coast of Nova Scotia and the New foundland, sailors often meet icebergs a hundred feet high, and all the books say that there is nearly six times as much ice under water as there is above. But when I went skating on our canal, the ice lay, all of it, on top of the water, and none of it that I saw was under the water at all. And yet when I break off a piece of ice and put it in a pitcher of water, it floats just like an iceberg, six times as much under water as above it.

An Indian was found dead by the roadside, one very cold morning, with an empty rum bottle beside him. He was frozen stiff. The wise Indians came and examined to find what had killed him. They decided that there had been too much water in his rum, and the water had frozen hard and killed him. Rum never freezes, but men with rum in them freeze more easily than other men who drink cold water only. Queer, funny frost again.

These are only a few of the curious things that frost has set me to thinking of. If any one of the readers can explain all these curious things, they will be wiser than some professors in our colleges. And professors are the wisest people I know of.—*Thos. K. Beecher, in Little Corporal.*

A SWEET AND SOUR APPLE.

Capt. Benj. Allen of Greene, Me., raises in his orchard a variety of apples which is a great pomological curiosity, as well as a puzzle. It is made up of alternate sections of sweet and sour, each section including about one-eighth of the apple. When the apple is well grown, the sections are regular and vary but little, if any, in different apples, and they are always distinct. In size, form and keeping propensities, it resembles the Rhode Island Greening—in fact, the sour part is that kind of apple. When first picked, the whole apple is of a greenish color, and the sweet and sour sections are not easily distinguished; but as it matures, the sweet sections assume a rich yellow color, while the sour part is that greenish yellow, peculiar to the Greening.

My father obtained scions from Mr. Allen's orchard, and for many years raised some of the apples, but the tree was blown down, and now, I think, there are none to be found only in Mr. Allen's orchard. Many a time I have seen my father, when he had company, surprise them by cutting first a piece of sour apple for them to taste, and adjoining that a piece of sweet, from the same apple. The tree now in Mr. Allen's orchard was grafted many years

ago, but I think no one knows where the scions came from. How was such a variety produced? Was it a natural growth from the seed, or was it produced by artificial means? I think it must have been done by artificial means, but what those means were, would probably need some experiments to prove.—*Z. A. Gilbert, in Maine Farmer.*

AMERICAN WOOL AND ITS IMPROVEMENT.

H. D. Tellkampf of New York submitted a report at the late meeting of the National Wool Manufacturers' Association, November 7th, on the part of a Committee of that body appointed to consider the subject at our head. The author, it will be remembered, is at the head of the house of Tellkampf & Kitching, and is perhaps second to no one in the extent of his information as regards the wool trade, and in his ability to speak with authority as to the wants of our manufacturers, and the character of the wool now and heretofore supplied by our growers.—*Country Gentleman.*

E. B. BIGELOW, Esq., *President, &c.*—As a member of the Committee on "Raw Materials," I beg leave, most respectfully, to submit some remarks in relation to the production of wool in the United States, considering the improvement of it of vital importance, both to manufacturers and wool growers, and the more so as the present high tariff operates seriously against a supply of several qualities of wool needed for various descriptions of woolen goods. The manufacturers have tested this year's clip sufficiently to tell whether they can acknowledge the force of the following observations, viz.:

Our fleece wool, as a general thing, has shown that too little care has been taken with the sheep—not even excepting our old wool growing States. It is evident, in fact, by the great number of fleeces being more or less matted and yellow, the staple of which is unhealthy, and causes a greater loss in working; such faulty wool, in spite of the great care, and much expense on the part of the manufacturer, will not render an article as good, as healthy or sound staple wool. The reason for such deficient or faulty fleeces is to be found generally in the fact that the sheep have been exposed to inclement weather, and been irregularly fed, etc., and an important objection to the exposure of the sheep in rainy seasons is the harshness of the points of staple produced by it. The well cared for flock will not only be healthier, and the mortality less, but the quantity of wool produced, larger and more valuable, than of the same flock if carelessly kept. A perfectly sound staple of the fleece is required for good fabrics and a perfect finish.

There is prevalent in this year's clip the influence of the Vermont breed, resembling the old Negretti Spanish breed, well known for many years for its heavy grease, causing in most cases the points or tops of the staple to become charged with a dark hard substance similar to pitch, and for this reason called, in Austria and Germany, *pitch tops*, which are dreaded by the manufacturers, who cannot scour this wool by the regular process, and have the trouble and expense of clipping the tops by hand, to say nothing of the loss of weight to them—seldom less than ten per cent. They have found, at the same time, that a wool without a perfect staple will not work or finish as well as that of a full or entire staple. Furthermore, the wool of this breed proved to be lacking the necessary *fulling* qualifications, and does not produce as valuable and saleable fabrics as that of Silesian and Saxony Escurial breed. Our next clip will be still more charged with "pitch tops," indicated already in the fleeces of yearlings and lambs this season, as, with the age of the sheep, the tops of the staple become more filled with the hard substance.

Vermont wool has never enjoyed in this country a reputation, as Silesia and Saxony wools have deservedly earned in Germany. It is, therefore, the more astonishing that the wool growers of Pennsylvania, Virginia, Ohio and New York, producing for years superior and higher priced wool than Vermont could be induced to venture upon an enterprise, without first considering the consequences, merely for the production of heavier fleeces. Should it have been recommended by Vermont breeders, "a single or double crossing," but no more, of the flocks in this country, it might have led to some good, similar in effect to that experienced in the superior Escurial breed of Saxony and Silesia, where the breeding-in for years had weakened the strength of the animals, and the fibre of the wool. But for this mixture of blood, nothing but the best breed of Negretti was considered advisable, or has proved beneficial.

It is very obvious that we have too much of the Negretti blood in our flocks, and to counterbalance it favorably, the Escurial breed of Silesia and Saxony has to be used without delay. The difference between those two breeds is "that the Escurials produce a compact, short stapled wool, superior for clothing. The Negrettis, however, grow a longer stapled wool, but not as compact a fleece. In Mecklenburg and Austria, more than in other parts of Germany, the Negrettis have been used, to a certain extent, for obtaining combing wool. In France, there are likewise good breeds for Delaine wool. The Negretti sheep is of larger size than Escurials. The best breeders in Silesia prefer the Escurial breed for its being a better traveller, healthier, and for consuming less food. Three Escurials will not need as much food, in short, as two Negrettis. Several years ago the Negrettis were introduced in various parts of Australia, but proving quite unsatisfactory, they are now called there *Re-*

grettis. It is evident that steps have to be taken, for the benefit of our wool growers, to produce the most desirable and valuable wool which our woolen industry needs.

The importation of Silesian and Saxony rams, either for account of the growers, or for account of a company of manufacturers, for distributing them at cost, adding a moderate commission, appears to be the most expedient measure for about three years, as that length of time is required before a good sized stock farm of the best breeds of these countries is in a position to furnish the needed rams to a certain number. There will be other breeders here who will join for the provision, by-and-by, of the demand and wants for Silesian or Saxony breed.

Allow me to say that nothing would speak plainer for the growers, and be of more advantage to them, than a material proof of the establishment of a stock farm by our largest manufacturers. Such could be accomplished with a capital of about $100,000, on a farm of about 400 or 500 acres, properly located in a healthy neighborhood near New York city. It would do to commence with a flock of about 200 ewes and eight or ten bucks of Silesian and Saxony full blood breed; but I would advocate under present circumstances, to begin with double that number, because the first year there would probably be only 350 lambs, of which one-half that number are males, and from them we have to deduct for mortality, &c., leaving only about 140 rams for sale when two and a half years old; consequently the income for the sale of rams would commence the third year, after which the yearly number would increase, and with it the entire value of the farm. Taking a moderate average value at $100 each, the first income for 140 rams would be equal to $14,000. As the expenses of a stock farm are heavier than of other farms, I will remark that all the produce, including the wool, might be taken for the expenses, leaving the revenue of rams as net profit, and increasing every year, would be a handsome return for the investment.

It is with this as with every business; its success depends upon a good selection of the best and healthiest breed, the proper lands and locality, good management, reliable help, etc. After inspecting a number of farms, some of them seem to be well adapted and reasonable in price, and to secure the success more fully of an enterprise of this nature, I would recommend the appointment of an able, reliable person, and trust to him rather than commit it to the care of shareholders who are unacquainted with it, or who might perhaps interfere to the detriment of other interested parties. A few large subscribers are preferable to many small ones.—*H. D. Tellkampf, New York, Nov.* 6.

The Buenos Ayres wool clip of last year amounted to 100,000,000 pounds.

For the New England Farmer.

A NEW YEAR SONG.

BY ANNE G. HALE.

A happy new year! A happy new year!
A happy new year to all!
We've naught to dread, we've naught to fear,
Whatever ill befall.
Ill—why should we call it thus?
Or *Good*? How dare we say
That aught is better, or worse, for us
While here below we stay?

O Earth, thy mysteries stand
Unsolved while the ages roll,
Mocking the wisest brain and hand,
And spurning all control!
And thus the years pass on,
Bringing the same to all,—
At times Life's bread, at times a stone—
The birth robe, and the pall.

The past with its pleading prayers
Unanswered flits away,
And out of its crumbling altar-stairs
We build our cross to-day:
Who knows but that it yet may rise
To a column of grace and strength,
Uprearing under smiling skies
A palace of joy at length?

We know Our Father's eye
Looks through earth's thickest clouds;
He sendeth peace from His throne on high,
Where wildest woe enshrouds;
And from the deepest grave,
And to lips the dumbest long,
His hand hath power to raise and save,
And give the sweetest song.

Then—up! up! every heart!
And—up! all voices here!
Sorrow and sighing shall depart
Before the glad new year.
A happy, happy new year!
A happy new year to all!
We've naught to dread, we've naught to fear,
Whatever may befall.

CHEMISTRY APPLIED TO THE WHEAT CROP.

We have just harvested and threshed our summer wheat, and find the yield to be a little rising thirty bushels to the acre. The berry is plump and full, and in color is not affected by the season. As we look upon our bins filled with the noble grain we ask ourselves, "Why is the cultivation of this cereal so generally neglected in New England?" Farmers have the impression that their lands have lost some element or elements essential to its growth, and therefore it must uniformly fail. This is true in part. Analysis of the wheat plant, both of the straw and berry, shows that it is peculiarly rich in lime, and also in the phosphatic and nitrogenous elements. These cannot be found in sufficient quantity in our worn-out soils, and therefore the wheat plant languishes. But we

can restore such soils to fertility, so as to get highly remunerative returns in wheat. We dressed our wheat field with pure bone dust, well rotted, 500 lbs. to the acre, and with it we mingled about 50 lbs. of nitrate of potassa. This gave us splendid results. Doubtless a thorough dressing of well-seasoned barn-yard manure would have furnished a sufficiency of the needed elements to have met the wants of a single crop; but we prefer the lime and salts, as being directly applicable to wheat on most lands, and rendering a crop certain. With flour at sixteen dollars a barrel, it is a pity farmers should not raise at least a home supply of wheat. We obtain the most delicious sweet bread from *our* wheat, ground fine, in an old-fashioned stone mill. We keep it out of the *bolt*, as it is certain we cannot improve upon nature in adjusting the parts of the grain to be used as food. More attention should manifestly be given to wheat-raising in this section of the country. So long as the high price of flour continues (we are of the opinion that the days of cheap flour are past,) it is the most profitable crop. The kind of seed that appears adapted to our soils is what is known as the "Black Sea" variety. This is a summer wheat. —*Dr. J. R. Nichols, in Journal of Chemistry.*

EXTRACTS AND REPLIES.

RELATIVE VALUE OF ROOTS AND CORN.—CROP OF POTATOES.

Will you please give me the relative value of early flat and ruta baga turnips, potatoes and corn for feeding animals. 1. Potatoes for horses that are not worked very hard; 2. turnips for cows; 3. potatoes for hogs. I estimate two bushels of steamed potatoes equal to three bushels of raw for all animals. Am I correct? Would you feed rye whole or ground to a fattening hog?

Lest you should think me rather ungenerous to ask so many questions without contributing any thing, I will say I have raised 260 bushels of extra potatoes from less than one and a half days' labor of self and hand, with horse and cultivator part of the time. The piece of land on which they grew is less than two acres, and no barn manure has been put upon it within the last fifty years. This year I used two casks of Bradley's Superphosphate. Unless on burnt land, who has done better? A SUBSCRIBER.

Plymouth, N. H., Nov., 1867.

REMARKS.—"A Subscriber" is referred to Johnson's Agricultural Chemistry. He will there find tables containing the nutritive elements of corn, potatoes, turnips, &c. He will find that corn contains about 93 per cent. of nutritive matter; potatoes from 11 to 21 per cent. according to variety; turnips somewhat less. From these data he can figure out answers to his questions. Roots, however, may possess a value not indicated by scientific analysis. During our many long winter months our stock are deprived of the succulent feed of the pasture, and confined to hay and other dry fodder. Men on shipboard are liable to diseases for which vegetables are the cheapest and surest preventives and cures. In the house we do not inquire into the exact amount of the nutritive value of a nice bowl of apples. We eat them and *feel* they do us good. In the barn, then, as well as on shipboard or in the family, the proof of vegetables—of anything green and juicy, even browse,—must, like "the pudding," be tested by "the eating." The farmer must not be a man of one idea. There is yet much in our philosophy that cannot be expressed dogmatically. We live and learn—one thing, at least, that circumstances alter cases. There is no doubt that roots are rendered more digestible by cooking. As to their increased nutritive value, see an extract from an English paper in the FARMER of the 7th inst.

TIGHT VS. OPEN BARNS.

Having noticed several communications in the FARMER on the above subject, in favor of open barns where hay is stored, I venture to oppose the theory, premising, however, that as I know whereof I write, what I say is '*practice* as well as pen and ink," with all deference to Mr. Bancroft, in the FARMER of Nov. 30.

I have two barns, one of which is shingled all over, and has a double floor; the other is old and open. I have for years been putting hay into the former, made at least from one-third to one-half less than that put into the latter, and never yet have taken any poor or smoky hay therefrom. While from the old barn the hay is always poor on the sides of the mow.

A neighbor of mine had an old house well shingled, lathed and plastered, which he filled with grass, cut and housed on a cloudy but dry day. In the spring it was taken out, when all but a few inches on the top was beautiful and much better perfumed than Lubin's Extract, called "New Mown Hay."

Col. ——, of New Bedford, filled some new oil casks with grass, green from the meadow. After a year had elapsed he found it in the same condition as when headed up. Keep the air from your hay as well as from the fruit which you put into cans, and it will keep.

Let those building barns think of these things and not go back to the days of their grandfather, "when grass was allowed to go to *seed* before mowed, and corn was planted *five feet apart* and the *plough was used* instead of the cultivator.

Somerset, Mass., Dec. 13, 1867. ANON.

LETTER FROM VERMONT.

When the mercury is forced to zero, and still down to 25 degrees below, by the power of the freezing cold, how can we improve a little time now and then to better advantage to ourselves and others, than by writing for our agricultural papers? The chores must be attended to as a matter of course. The colder the winds and the more severe the weather, the more careful should we be of the creatures entrusted to our care and protection; striving as far as we are able, to make them comfortable, and to keep them in a condition to thrive and grow.

"Billy Black" and "Fanny Grey" would fully appreciate an extra bedding of clean straw, and an additional rubbing down with the comb and brush; "Old Speck" and "Brindle" would gladly accept something of like treatment, with an extra nubbin of corn, these biting cold mornings; and they richly repay us for all our extra care in this direction.

The young stock out of doors, whose only shelter is the shed, the sheep in their yards, and the pigs in their pens, should not be forgotten as re-

gards the "extras" at such times. To keep our stock as comfortable as possible when the weather is unusually severe, is required of us as much for our own profit as for the comfort and growth of the stock. No considerate and human stock producer will allow his animals to suffer from a want of proper care and attention to these particulars. But when all this is done; when we and ours have been properly cared for these "bitter cold" days, let me repeat, how can we devote a portion of our time more profitably than by writing out our thoughts in regard to some matter of interest to ourselves and others for our FARMER or *Cultivator?*

Then, again, we have long evenings at this season of the year which we can improve very pleasantly, and, I think, profitably in this manner. In the first place, every man who owns a plot of ground of sufficient size for a garden, should take an agricultural journal. If he is not a farmer, he should feel and manifest an interest, to some extent, in farming and gardening, that he may be able to make the most of whatever land he may possess. Men are few who take no interest in agricultural or horticultural affairs, and are willing to be counted wholly ignorant in matters pertaining thereto. There is a charm in rural life which all appreciate; and I know of no better means of information; no purer, more elevating and instructive reading, for a family of boys and girls, whether they be farmer's sons and daughters, or not, than what the columns of our rural journals afford. I consider our agricultural and horticultural journals among the best and ablest published, and should receive "aid and comfort" from all interested in the sciences of which they treat.

Lyndon, Vt., Dec. 16, 1867. I. W. SANBORN.

ARSENIC AND UNGUENTUM.

Your correspondent, David Currier, of Peacham, Vt., cautions your readers against the use of "unguentum" for the cure of lice on cattle, and recommends as a substitute a solution of arsenic in soap and water. I have no doubt this will kill the lice, but as to its being less dangerous, I have much doubt. Indeed, I think it is much like cautioning against the use of a bow and arrow on account of its dangerous character, and recommending the Minie rifle in its stead. He says the soap neutralizes the poison, and renders it harmless to the cattle. The common white arsenic of commerce is arsenious acid. When added to boiling soap and water, it combines with the potash of the soap and becomes arsenate of potash. Of this a much greater quantity can be dissolved in a gallon of water, than of the simple arsenic. Hence the soap so far from neutralizing the poison, causes the water to dissolve a larger quantity than it would without it. Fowler's solution, which is the most common form in which arsenic is administered medicinally in this country, is a solution of equal parts of arsenic and carbonate of potash, in water, the carbonate potash being added to render the arsenic more soluble, and to enable the water to take up more of the arsenic. His application shows how much poison cattle will bear without fatal injury. I have been in the habit of using the unguentum for many years with success, and never with any perceptible injury. J. R.

Concord, Mass., Dec. 25, 1867.

WILL NATIVE COWS PAY?

Having seen several statements in the NEW ENGLAND FARMER of the products of different breeds of cows, I will give you a report of a small sized native cow I purchased last fall for $42. She gave a small quantity of milk to March 10, and calved April 20. I was obliged to milk her twice a day for a week previous to calving, though told by several that I should spoil the cow. I was, however, satisfied that it was a great relief to her, and did much to keep her udder free from inflammation. The calf was sold April 29, and from May 1, to Dec. 1, she had given 3643 quarts or 7741 pounds, at 8¼ pounds to the gallon; being an average of seventeen quarts a day, or 10 quarts per day for the year. Dec. 1, she gave 11 quarts; and at one milking 12 quarts; 22½ quarts largest daily yield. Or, in more detail, from may 1, to 15, she averaged 16 quarts a day; from May 15 to 31, 21 quarts; during June she averaged 21 quarts; July, 20 quarts; August, 18 quarts; September, 16 quarts; October, 14 quarts; and November, 11½ quarts per day.

I think the quality of her milk full an average for Native's. Feed through the summer, grass and four quarts of fine feed. She now gets dry hay with the same amount of fine feed mixed with warm water. Is supposed to be with calf to come in May. H. C. FISK.

Fairmount, Mass., Dec. 20, 1867.

DOMESTIC TRAINING—NO. 3.

In reply to "Sarah," I would say, that it is not "modesty," but the consciousness of incapacity, that prevents me from "giving my experience in housekeeping." Most gladly would I do so, if I were as good a housekeeper as some ladies whom I have known. As it is, the less said, the better

Yet all the more for that very consciousness, would I urge it upon those having the care of the young, to make instruction in such matters a *speciality*. When the young lady leaves the parental roof for a home of her own, she should be able to meet her household duties not as an ignorant apprentice but as a skilled master. Life has an abundance of inevitable cares, without adding thereto those which might easily have been avoided.

The sewing and knitting department should also receive due attention. The latter accomplishment has been much neglected of late, and perhaps with some show of reason. Yet on one account, at least, it should be learned,—because it is the most suitable work for the aged. If the young lady will just imagine herself a matron of fourscore, in cap and spectacles, she will doubtless think, as a lady once said to me, "I shall certainly learn to knit before I get to be old."

"Practice makes perfect," in housekeeping as in everything else; but that practice should be secured, and that perfection, as far as may be attained, in the sunny days of youth, while care and weariness are yet far in the future. MATTIE.

Marlboro', Mass., Dec. 17, 1867.

LAUREL POISONING.

I wish to inquire whether there is any remedy or cure for sheep that are poisoned with Laurel. If so, what is the remedy, and is it sure cure?

E. L. METCALF.

Franklin, Mass., Dec. 16, 1867.

REMARKS.—In the early spring, before the grass has sufficiently started to give the lambs a good bite they are most liable to eat the laurel, although they are occasionally poisoned by it at other seasons. In his "American Shepherd," Mr. Morrill says:—

In the early stages, if the greenish fluid be suffered to escape from the stomach, the animal most generally recovers. To effect his, gag the sheep; which may be done in this manner: Take a stick of the size of your wrist and six inches long—place it in the animal's mouth—tie a string to one end of it, pass it over the head and down to the other end, and there make it fast. The fluid will then run from the mouth as fast as thrown up from the

stomach. In addition to this, give roasted onions and sweetened milk freely.

In a communication in our columns some three years ago, Mr. A. W. Valentine, of Bethel, Me., said:—

Last spring we had ten or twelve sheep poisoned at one time, and succeeded in curing all of them by making use of the following remedy: bruise well the green twigs of white ash; boil them one hour in water enough to cover them when pressed down. Two tablespoonfuls will generally cure, if given within twenty-four hours of the poisoning. The sheep like it, and after the above trial I used often to give it to them. A neighbor has always succeed by giving a gill of lard or fresh butter in a pint of new milk.

A correspondent of the *Rural New Yorker* says he once had five valuable sheep poisoned with laurel. He gave them melted lard and milk, without any apparent effect. Two of them died. He then applied crushed onions under the fore legs of the others, where they join the body. Two which appeared to be in the worst condition recovered. The other, which lost off the onion, died.

Two or three doses of Thompsonian Composition Powders, and the seeds of the common Plantain mixed with a tablespoonful of molasses, have also been administered with apparent benefit.

WARTS ON CATTLE.

In your issue of the 14th inst., you say, "We think we have never seen so many warts on cattle as this year. Whether the unusual amount of rain which has fallen the past season in New England has any connection with their production we cannot say." In the West, we have had a drought the past summer, as you are aware. Still a very common question here, is, What is the cause of so many warts on cattle this fall? and how can we get rid of them? Yesterday I saw a herd of thoroughbred and grade Jersey cows, on every one of which were more or less warts. In this section they appear to fasten on a herd and reproduce themselves on each of the animals. What can be the cause of these warts? Clearly it is not, in this section, on account of much rain.

W. P. ANDERSON.

Cincinnati, Ohio, Dec. 16, 1867.

REMARKS.—These are certainly interesting inquiries, and we invite communications from stock raisers and farriers.

A correspondent, "Yeoman," of Norfolk county, Mass., writes us that he has frequently had cattle troubled by warts, and has always cured them by applying a few times, with a swab, a wash made by boiling the branches of the Fever Bush, (*Benzoin odoriferum.*) The same wash is also, he says, a sure cure for the Mad Itch.

INFORMATION WANTED.

In your paper of the 14th inst., we have some excellent remarks intended for the benefit of a person you call "dear young farmer—Y. F."

Some of the dirty work he refers to, I suppose, may be the making of *manure*, by keeping cattle or by composting. It is in this part of farming that we find our dirty work, to lessen which some hope to find a way by the aid of agricultural chemistry. "Y. F." seems to think agricultural colleges will help those who can go there, to learn how to avoid the dirty, drudging, hard work of a farmer's life. Well, one of the principal things we want is knowledge of a way to make manure, and if our friend "Y. F." could content himself with so understanding agricultural chemistry, as to be able to find manure "everywhere plenty and adequate to the demand, so that by expending $1.50 he can always produce an extra ton of hay, and can keep mowing and pasture land in a fertile state without recourse to animal manures, and even bring back old pastures to their original fertility, he need not go to any agricultural college to do this. Now, if he wishes to understand chemistry so as to grow apples, peaches, pears and plums, without the use of spade or plough, and make the trees as healthy and the fruit as perfect as when the country was new," he need not go to college, as it is proposed to teach all this, and also how to prevent potato rot, in a school to be instructed by a professor of agricultural chemistry,—charge for tuition $3. The school is in Sherborn, Massachusetts

I headed this "Information wanted." The information we need is this:—Can any person inform the many subscribers to the NEW ENGLAND FARMER, how far the scholars of Professor Dodge Hayward have succeeded by the aid of his instruction in agricultural chemistry in producing hay and grass, fruit and potatoes, as I have promised above, in the professor's words, though not by his request. My use of the article in the NEW ENGLAND FARMER of the 14th inst. I hope I will be excused by the editors and by "Y. F."

Sherborn, Mass., Dec. 20, 1867. J. P.

THE STOCK IN WINTER.

While cattle require especial care and daily attention during the winter season, the cold weather is apt to induce carelessness and neglect on our part. Animals should be well watered, equally foddered, and systematically carded or cleaned. Salt should be kept before horses, cattle and sheep. They should have a daily airing of two or three hours. Young cattle and sheep may have much more liberty. No class of stock should be allowed to run down in flesh, as it is hard work to bring them up again. Keep the young stock growing. However abundant fodder may be, its waste is criminal. Those who throw out hay, straw or stalks to be trampled upon and trod into the ground by cattle and sheep do a very foolish thing, for if properly used as bedding, even, it would be worth a good deal for manure. Racks ought to be provided for the yards and sheds as well as for stalls. O. T.

Lakeville, Mass., 1867.

CURE FOR SCRATCHES ON HORSES.

Take Balm of Gilead buds, say enough to fill a quart bottle, then cover the buds with alcohol and in a few days it will be fit for use. Add an equal amount of chamber-lye to the liquid and wash the parts affected twice a day. This will take the soreness out, and soon effect a cure, if the case is not a severe one. The horse can be kept in use by making the application upon putting him up, as it will prevent him from taking cold.

Every man that has a horse should secure a quantity of the buds in the spring of the year when they are large and full, as the wash is excellent for galls, wounds and bruises. M. M. TALLANT.

East Concord, N. H., Dec. 26, 1867.

HOW TO GET RID OF RATS.

Last spring rats were so plenty about my buildings that I often counted a dozen in a drove. I tried many ways to get rid of them without effect, until at last I caught one alive in a steel trap. I

smeared him well from nose to tail with kerosene oil and let him go. In a short time every rat disappeared, and I have not seen one, or any signs of one, about my premises since. Perhaps my success in routing these "enormous pests" may encourage "E. M. E." to persevere in his battle with the "varmints." H. T. BERRY.

South Bombay, N. Y., Dec. 10, 1867.

REMARKS.—An "exchange" says that a little soft potash spread near their holes will make their feet smart, and as they seek relief by licking them, both mouth and feet will become sore, and the rats will abandon the premises in disgust, and warn all the rats in the neighborhood not to "put their foot in it."

STIFLED COLT.

What is the best treatment for a colt, six months old, whose stifle joint easily gets out of place? Can a stifle shoe be safely used; or, can straps, to keep the parts in place, be safely used in colts, so young, without inducing deformity in growth?

Paris, Me., Dec., 1867. E.

REMARKS.—Dr. Dadd says that in days of yore, it was customary to apply the stifle-shoe, but he thinks the practice is injudicious, highly injurious, and at the present time is scarcely ever advocated by men who do their own thinking, and who practice in accordance with the principles of common sense. He recommends bathing constantly with some astringent, a solution of alum will answer. Sometimes, however, it will be necessary to shave the hair from the part and apply a strengthening plaster composed of pitch, tar and rosin—equal parts; these are to be melted in a tin or iron vessel; and when the mixture is sufficiently cool, it may be spread on the region of the stifle by means of a knife, and then covered with a thin layer of wool or cotton batting.

On page 495 of the MONTHLY FARMER for 1867, we replied more at length to a similar inquiry.

PLOUGHING IN MANURE.

In a communication to a late number of the FARMER, signed H. Poor, I find an endorsement of the old fogy doctrine, that "harrowing in manure is a fatal error." I would like to ask Mr. P. if he has had as much experience in harrowing in manure as in ploughing? Those who have, are staunch friends of the *harrow*. The idea that it *dries* up is a "fatal error."

Does he know of any way by which land can be manured higher than by putting a pile of manure on it and letting it lay over winter? Men familiar with the lands at the west say that the Lord grows taller grass and keeps his land in better condition than we overwise mortals do, but that he never owned a plough, and does it by top-dressing. H.

November 5, 1867.

MILK FOR BUTTER, FOR CHEESE, AND THE CITY.

At the meeting of the Milk Producers' Association, the question was asked, What quantity of milk was required to make a pound of cheese? By a published statement, I learn that from nearly 100 trials, it was found that two gallons of milk produced one pound of butter, or two pounds of cheese, as the average for the season. If this statement is correct, will it not pay the farmers better to build butter and cheese factories, than to make milk for Boston market, as good butter has averaged about 40 cents per pound, and cheese about 15 cents, the past season? There are some advantages to the farmer in favor of factories. As the milk is all produced from the farm, and mostly in the summer, no extra feed is required, as in making milk in the winter; and there will not be any sour milk returned to the farmer, as is done on milk routes for the city, when milk is too plenty at market, and no neglect to furnish more than two-thirds of the number of empty cans required, whenever it suits the middle-men so to do, and no cans to wash and keep clean, when cleansed at the factory. This will, I think, pay the farmer as well as selling the milk to the middle-man at whatever price he is pleased to name. But as there are two sides to every story, will those who see the opposite side of this please give it as it appears to them.

A MILK FARMER.

Roxbury, Mass., Dec. 30, 1867.

REMARKS.—A table of the statistics of forty-one factories, which used the milk of 18,779 cows, yielding 6,356,412 lbs. of milk, showing an average of 9.68 lbs. of milk to one lb. of cheese, is given in the Second Annual Report of the American Dairyman's Association, for 1866. A gallon of milk, large measure, is equal, we believe, to about 10 lbs., and of wine measure about 8 lbs.

In his address before this association, in 1865, Mr. X. A. Willard says, that from experiments made at the Orange County Milk Association, where butter and skim cheese are made from the same milk, it appears that 28 pounds of milk, during the summer, yield one pound of butter and two pounds of skim cheese.

THE ORWELL, VT., CHEESE FACTORY.

I noticed in a late number of the FARMER inquiries of A. J. Mitchell, of Lempster, N. H., about cheese factories. As we in Acworth are contemplating building one the next season, it was just the thing we wished to see. In your remarks in regard to the cheese factory in Orwell, you stated that from 300 cows, this season, were made 60,000 pounds of cheese, which is only 200 pounds of cheese to each cow, from June 17, to October 22. Now, as my New York friends tell me that one gallon of milk will make one pound of cheese, those cows would hardly average seven quarts of milk daily. Is there not some mistake? For, at eleven cents and seven mills per pound, there would be an income of only $23.40 to each cow, which is not $40 to $80 each, as my New York friends talked to me. Please to inform us through your columns if there is not some mistake, for we are desirous to know the truth, which ought to prevail. JOSEPH HAYWARD.

Acworth, N. H., Dec. 24, 1867.

REMARKS.—As the statements alluded to were those of a correspondent of another paper we are unable to verify them. But it appears to us that you have overlooked some of the facts, which are plainly stated in the article criticised. In the Report of the American Dairyman's Association, for 1866, it appears that of the three factories in Oneida County, which mention the date of commencing and closing operations, one began April 1, and closed Nov. 25, another April 9, to Nov. 3, and the third April 10, to Oct. 30. In Herkimer County, the factory at Frankfort commenced making cheese March 26, and closed November 23. In Lewis County, one factory began March 16. Perhaps the average of those reported would be

rather earlier than the middle of April, for commencing, and November 10, for closing. The Orwell factory, for reasons not stated,—unless the fact of its being the first year may be taken as one of those reasons,—commenced June 17, and ended October 22—about one month more than one-half the time the factories in New York are run.

Then, again, instead of 11 7-10c per lb., the cheese made at this factory,—being an imitation of the Cheddar cheese of England, and "made to resemble, in color, good butter in June,"—we are expressly told was sold for "15 to 15½c per lb.," giving over $30 per cow for four months and five days. The Cheddar cheese is the richest of any made in England, and contains over 30 per cent. of butter, while skim milk cheese has less than 6 per cent.

It is said that the milk from 300 cows was used at the Orwell factory; but we are not told that none of the milk from any of these cows was retained at home, or whether that given on Sunday was used or not.

These considerations seem to us to place the operations of the Vermont factory in a better light than that in which it was looked upon by our correspondent.

From the Report already alluded to, it appears that the De Witt factory in Onondaga County, with 300 cows, made 103,453 lbs. of cheese, and the remark is made that many small dairies made butter in the spring and fall, and put milk in the factory only through the hot weather. The time of commencing or ending is not stated.

Brant Centre factory, in Brant, Pa., with 300 cows, made 105,466 lbs. of cheese. Time not given.

Excelsior Factory, Brookfield, Madison County, N. Y., with 300 cows made 97,000 lbs. cheese the first year. Time not stated.

JERSEY, ALDERNEY AND GUERNSEY CATTLE.

Are these three varieties of Channel Island cattle, viz: Alderney, Jersey, and Guernsey, all one and the same? Or are either two of them the same? There appears to be a distinction between the first two and the Guernsey, but I can find no place where the difference is described, and Alderney and Jersey appear to be used synonymously. Who is the publisher of the new Alderney Herd Book? W. R. ANDERSON.

Cincinnati, Ohio, Dec. 16, 1867.

REMARKS.—Not being able to answer these questions satisfactorily to ourselves, we requested a gentleman to do so whom we knew to be as well qualified, both from his experience as a breeder of the Jerseys, and from his general intelligence, as any individual in the country. We are very happy, therefore, in publishing the following valuable paper from Mr. Converse, and are sure he will receive the thanks of many of the readers of the FARMER who are interested in Jersey cattle, as well as of Mr. Anderson, at whose request it was written.

MESSRS. R. P. EATON & Co.,—*Gentlemen*:—Your favor of the 21st came duly to hand. The names *Jersey* and *Alderney* are used in England and in this country to designate one and the same breed of cattle. Of the entire propriety of this usage there can be little or no doubt, because the cattle from the two islands of Jersey and Alderney have so long been bred together as one breed, both in England and here, that they are now pretty thoroughly mixed. At home, however, on their native islands, their owners regard them differently; the breeders upon each island being very naturally more or less partial to their own animals; but after they have been transported to new homes they usually pass for one family. The supply comes mainly from the Island of Jersey, where they are bred extensively. The island of Alderney, being much smaller, furnishes comparatively few,—probably not over about two hundred cows are raised there annually. Liverpool vessels trading with the Channel Islands, usually make Alderney their last stopping place on the way home, and perhaps may there take on a few head of cattle in addition to the larger number they took at Jersey, and on their arrival home are reported as from Alderney with cattle; consequently, many cattle really from Jersey, are reported as from Alderney. They are so nearly alike in size and form, in color, and in their appearance in all respects, that, when together in herds, no marked difference is discernible, except perhaps, to a very skilful eye.

The Guernseys are regarded as a distinct breed. The difference between them and the Jerseys and Alderneys is sufficiently marked to be easily perceptible. The color of the Guernsey cows is, for the most part, red or a light reddish brown; the bulls darker; whereas that of the Jersey or Alderney cows is usually fawn and white, dun, mouse or French grey, mixed with fawn and white,—the bulls being generally darker about the head and neck. The Guernseys are also somewhat larger in size and coarser, and lack some of those peculiarly striking marks about the eye and muzzle so much admired in the Jerseys and Alderneys, They are, however, very highly esteemed as a breed, and the cows are regarded as excellent for butter.

Mr. Brooks, of Princeton, Mass., proposes to edit a new and enlarged edition of the Jersey herd record, to be published the first of June next, provided a sufficient number of entries are previously made to warrant its publication. About one hundred pedigrees have already been received since last publication.

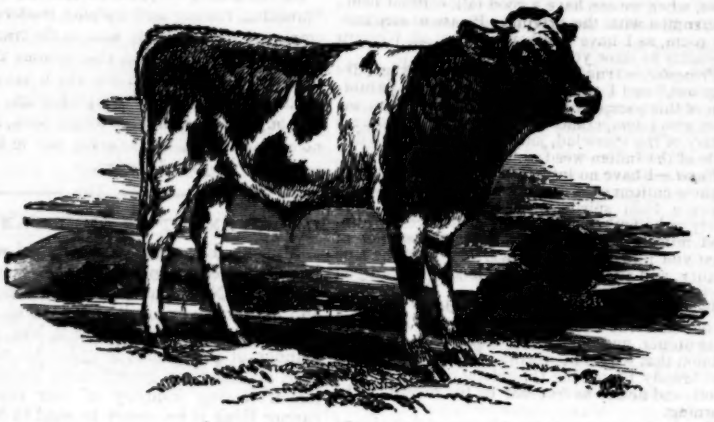
Suppose you give breeders a hint to send in their records. Very truly, J. C. CONVERSE.

Arlington, Mass., Dec. 27, 1867.

WARTS.—BARN ITCH.

From my own trials I can confidently recommend the following ointment as a sure cure for small Warts and also for the Barn Itch. Take equal parts of Tar, Sulphur, and Lard, heat them over a slow fire until all are melted; then stir until cold to prevent the separation of the ingredients. Apply the ointment freely, daily. C.

Surry, N. H., Dec. 8, 1867.



CALF OF AN IMPORTED JERSEY COW.

The above illustration was drawn of a calf of the imported Jersey cow Flora, whose likeness adorns the 436th page of the Monthly Farmer for 1867. Perhaps to indicate its foreign origin or royal blood, this little bossy was called "Czar." At eight months of age he weighed 500 pounds.

In a late number of the *Farm and Fireside*, Mr. Giles, of Woodstock, Conn., in an article on Jersey Cattle, gives the following characteristics or marks of a Jersey cow; and adds, if any one buys such a Jersey cow as he describes, if she does not prove good he will take her at cost price.

The following is his description:—

"She should have thin jaws, a small muzzle, with a white rim around it, wide between the horns, a full eye, and horns small, yellow and waxy looking at the root, tapering off to black on the tip of the horn; inside of ears, a deep orange color; neck, long and slim, well filled out behind the shoulders, straight back, and round, full barrel; small tail; tip of tail a bright, deep orange color; deer-like legs, with square bag, running well forward, and well up behind; teats of medium size, well set apart; bag and teats of orange color, no matter how deep that color is."

NEW PUBLICATIONS.

Horse Portraiture; Embracing Breeding, Rearing, and Training Trotters, with their management in the Stable and on the Track, and Preparation for Races: including Histories of the Horse and Horsemen. With an Appendix containing the Performances of Dexter, and a Portrait by Scott. By Joseph Cairn Simpson. New York: W. A. Townsend & Adams. 1868. Boston: A. Williams & Co., 100 Washington Street. Copies sent by mail free on receipt of $3.

This is the full title of a gay but neat volume of 458 pages. It is also, we think, an honest advertisement of a work devoted to "training trotters," the "preparation for races," and the display of the author's skill in fine writing. The style of the work is the high-flown colloquial,—a dialogue between a Preceptor and a Pupil of the henceforth classical profession of "training trotters" and "preparation for races." The first sentence that falls from the lips of the "esteemed" Preceptor closes with a proposition to "wager a dozen of wine." And throughout the whole volume, the "literature" of smoking, drinking and eating is made altogether too prominent for our taste. We cannot refrain from an example:—

Preceptor.—Good day, scholar. You will perceive I have dropped in in time for dinner, which, I am free to acknowledge, will come very acceptable. I have "occasion," and shall do justice to the good cheer your hostess always prepares for us. I will also admit that the "pleasures of hope"

are likely to be fully realized, as I anticipated "blowing a cloud" with you, for I find no other cigars the equals of those Principes.

Pupil.—I am delighted to see you, and better pleased that you have timed your visit just as you have, when we can have a good talk without being interrupted with the driving. Please to step into my room, as I have another evidence of Western liberality to show you.

Preceptor.—True enough, you have a goodly "lay out," and I would suppose, from the exhibition of this paraphernalia, that you have foregone your strict temperance principles, and become a votary of the vine-clad, jolly god, as well as a disciple of the Indian weed.

Pupil.—I have no intention of indulging in any of these enticements, and my vow of strict total abstinence from spirits, wine, or beer, is no more likely to be broken than if this nectar were a hundred miles off. But test it, fill up a bumper of what you like best; I will warrant it of the true quality, and after you have imbibed, will read you a letter that accompanied it.

Preceptor.—"That good wine needs no bush," is an old and true adage. I hardly ever drink till after dinner, and do not feel capable of giving an opinion that would be worthy of much weight, but that brandy I took the thimbleful of is as smooth as oil, and nearly as fragrant as the breath of the morning.

Pupil.—I want you to try a bottle of that sherry at dinner. If you praise the odor of the brandy, you will be completely carried away with the aroma—but the letter will say better than I what needs to be said:—

CHICAGO, June 1st, 18—.

* * * * * *

Tell the old man not to be vexed, that I have sent a basket of champaigne for Misses Jane and Susan; and I believe you would have been *omadhaun* enough to have gone to the races at Jerome Park with them, and never have thought of clapping a few bottles in the carriage. The poetry of motion, as you call it, in seeing a half score of thoroughbreds rattling over a dirty track is rather a dry sight; about as bad as smoking with only tasteless water to wash out the *gout*.

* * * * * *

Don't forget to get a sideboard, *and keep the bottles always in sight.* Remember, every one does not smoke, and the only good in a cigar is the relish it gives to the drink.

* * * * * *

In contrast with the above we might cite many paragraphs not only unobjectionable but highly meritorious. The following, for instance, we wish every jockey in the land would read and ponder.

There is a subtle fluid, magnetism we will call it, between the horse and driver, the reins being the medium through which it is conveyed. How angry I become when I see a big brute tugging away for dear life at these leathern straps, his body braced as if a yoke of oxen were hitched to him to pull him from his seat, yelling at the top of his voice, self-satisfied that he is an expert. The horse has ten times more sense than he, and has learned that he must pull against the bit still harder, to stop the circulation of the blood in the sensitive bars, numbing them till the torture is unheeded. After a while the delicacy of feeling is gone, large calluses are formed, and the horse becomes perfectly useless. The knife is resorted to, the "bags" are cut out. A brief respite, while the ugly wounds are healing; then again to be tugged at and spoiled. The reins should be handled as if they were a part of the animal endowed with sensitiveness, which would be destroyed by a continuous pull. A slight motion of them shifting the bit has often a magical effect in rousing the horse, when whip and spur would fail.

On the whole, we presume that all engaged in "breeding, rearing and training trotters," and all employed in "the stable and on the track" of our race courses, will find in this volume that information and those directions which are applicable to their respective work and profession. But they will be obliged to read the whole book, as there is no alphabetical index to assist one in finding the particular subject of inquiry.

IMPROVEMENT OF AMERICAN WOOL.

MESSRS. EDITORS:—I have read with much interest a communication from H. D. Tellkampf, of New York, upon "American Wool and its Improvement," and have to acknowledge my inability to agree with him, as to the manner of procedure, in order to render the clips of American growth more inviting to the manufacturing industry of our country. I cannot think it necessary to send to Saxony or any other country to improve the wool of American growth. There is abundant material in this country to produce all of the different varieties of wool that would be necessary to manufacture every kind and quality of cloth, by a judicious selection of rams, from the purest flocks in the United States.

Had the manufacturers of broadcloths in 1835, 1836 and after years, made a proper distinction between Saxony and Merino wool, we never should have heard of the complaint that now salutes our ears. The writer of this, grew Saxony wool from 1834 up to 1850, and knows from actual experience that Saxony wool cannot be grown at this date for so low a figure as the quotations are, from week to week, without an absolute loss.

In 1834, '35 and '36, our Saxony wool sold for eighty cents a pound, average weight 2 lbs. 14 oz. and would not shrink more than 25 per cent., for the leggings were not put in, and many times the bellies were thrown out also, but at the same time and in the same years Merino wool sold in the same neighborhood for seventy cents per pound, with all of the leggings put in, bringing the weight of the fleeces up to four pounds and upwards. Cannot any man see that, in the palmy days of the Saxony fever, it was much less profitable to grow Saxony wool than Merino? and, unless the American wool-grower can be assured of an equally remunerating price for growing Saxony wool, as his neighbor who grows Merino, it will be a disastrous business to any one who undertakes to establish a flock of Saxony or Escurials in this country, with the expectation of selling stock rams for the purpose of improving the clothing wools of the country. —*A. G. Percy, Newark, N. J., in Country Gentleman.*

OUR SCHOOLS.

Our Common Schools have been often called the glory of New England, and truly they lie at the foundation of our New England character. It is the quickened intellect which gives to the men and women of New England the activity and energy and self-reliance by which they are distinguished wherever they are found. They are conscious of power and of resources which enable them to meet the emergencies and encounter the difficulties of life. The training which our children receive in mental arithmetic, by which they are taught to analyze intricate combinations of numbers, and reduce them to their simple elements, is an admirable foundation for the future study of the higher problems of language, physics and mental philosophy.

When we see young lads and girls working out with nimble fingers difficult questions, by means of algebraic symbols, and reaching results in geometry and natural philosophy by the closest applications of logic, we are convinced that they are acquiring a power that will fit them to wrestle with the dangers and difficulties that lie in the pathway of life. They feel like well armed soldiers, inspired with conscious strength and courage to face every enemy that may cross their path. The undeveloped and unfurnished intellect yields to difficulties, and sits down in despondency; but the thinking person, who has been taught to look into the causes of things, instead of lying supine, will carefully examine the circumstances by which he is surrounded, and find or contrive the means to control them or turn them to his advantage. A young person who has learned to make the effort necessary to comprehend and apply the principles embraced in the several branches of learning taught in our schools has acquired a command of his faculties that will be of inestimable value to him through life. He has learned to fix his attention, to reason from antecedent to consequence,—from cause to effect. He is like the artist who has acquired the command of the implements of his art. He is no longer a mere theorist, but a skilled workman as well.

The good teacher aims to teach each pupil to reach results for himself, without seeking assistance from another. In the power to do this, more than in anything else, the true genius for teaching is manifested.

And so of the pupil. The habit, early acquired, of relying upon his own resources, and his own exertions, more than anything else, ensures success.

More than forty years ago, we were teaching school in a town in this State. A boy about twelve years old was studying arithmetic and Virgil. One Friday afternoon, he came to us with a difficult sum and said he did not see how to do it. We looked at it, and said to him "You can do it if you think closely." He went to his seat and worked the remainder of the afternoon. The next forenoon he worked all the time he had after reciting his lesson in Virgil. Saturday afternoon he spent chiefly in his chamber, instead of at play. Sunday morning, after breakfast, he was missing until just before the second bell rang for meeting, when he came running into the room, slate in hand, and with an exultant smile on his face, exclaimed, "I have done it." We then felt sure that he would succeed in life. He had fought a hard battle, and achieved a victory. He has since occupied a distinguished place as a man and a scholar. That one victory taught him the value of self-reliance and perseverance.

The amount of knowledge actually acquired may not be very considerable, or of much real value. But the learning to think, to investigate, to reason, to adapt means to the end sought; in short, the learning how to learn, is the great thing to be had in view.

The scholars in our Normal Schools, who have well improved their advantages, are prepared to apply themselves to any branch of study, because they have been taught to examine, to analyze, to reason. The great object in these schools is to teach how to teach. But the foundation of the art of teaching is a comprehension of the way in which the mind acts in

acquiring knowledge, of the faculties brought into activity, and the order in which they act. In other words, one must understand how to learn before he can teach. The success of Normal teachers is owing not so much to the amount of knowledge they have acquired of the elementary branches which they study in these schools, as to their skill in developing the faculties of their pupils, and thus bringing their minds into a receptive state. The method of teaching mathematics in these schools is nearly perfect, and the success of Normal teachers in this department is all that can be desired. If they were as successful in teaching language, a new era in the history of education would dawn upon us. Mathematics may be studied successfully in early life, but to master the philosophy of language requires maturity of mind and an extensive acquaintance with words and their origin, powers and uses. Hence, most young persons are but partially successful in teaching language. But the multitude of books and papers in the hands of our youth, and the general habit of reading which they acquire, enable them to use the current language of the day, readily and correctly. The compositions which are weekly read in our district and high schools indicate the degrees of mental improvement made by the pupils, and are the most useful exercises in language in which they engage. They are thus taught to study the meanings of words and select those that will most clearly and most gracefully express the thought which they are striving to utter.

The methods of instruction in our schools are improving in many respects. The blackboard has given a new impulse to many branches of education, and its use can hardly become too extensive. One who has used it in teaching geography and natural philosophy will never dispense with it. We have seen, within a week, a boy less than twelve years old, go to the blackboard and draw a well-proportioned map of our State, divide it into its several counties, mark in their proper places the principal towns, and the mountains and streams, and then name and bound the counties, and tell their shire towns, and describe the natural features of the State. He was taught by a teacher who thought it best to teach children what they need to know. This boy will understand the interests and occupations and wants of the people of his State, when he comes into its Legislature, better than he would if he had spent the same amount of time committing to memory long lists of the hard names of South America and Central Asia. On another day, a boy of fifteen went to the board and drew an outline of a railroad engine, with its bearing and driving wheels, connecting-rods and pipes, and named the several parts and showed their use and how to move the engine backward and forward. This boy has already laid the foundation of a useful and respectable business.

Too many of our schools are deficient in this practical teaching, in which principles are not only taught, but also their practical application to the arts and business of life. There needs to be an impulse in this direction, given to all our schools, and it is to be hoped that the Board of Education will take the subject into serious consideration. What is wanting, is, not more attention to special studies, as engineering, agriculture, painting, &c., of the expediency of which in our common schools, we have much doubt, but a better method of illustrating general principles by showing their applicability to the arts and common pursuits of life.

No class of persons among us is more deserving of support and encouragement than intelligent, faithful, earnest teachers. They are entitled, not only to the wages they receive, but to the countenance, the sympathy and the respect of the entire community.

ANGORA GOAT.

Some twenty years ago we saw considerable in the papers about some Cashmere goats which a gentleman by the name of Peters had imported and was breeding in the vicinity of Atlanta, Georgia. But we believe that it was generally supposed that these goats were not the Cashmere but simply the Angora. Some of these animals we believe went to Texas and some to Ohio, and we saw statements of their being valued at $600 to $1000 each, and their fleece from six to eight dollars per pound. Other accounts represented the whole thing as a speculation or "sell." The past season Hon. Israel S. Diehl received a commission from the Agricultural Department to proceed to Asia and purchase the best varieties of the goat that could be found. This,

too, has been sneered at by some as "a pleasant thing to go abroad at government expense in pursuit of zoological curiosities;" others regard it as a movement which may prove of as great advantage to the country as the introduction of the merino sheep. Mr. Diehl, after a journey of 1500 miles in Asia, has returned with 118 goats, and he says he has also "collected many valuable seeds for distribution, as well as some of the celebrated Angora cats, rabbits and shepherd dogs, all white." As to the agricultural value of the cats, rabbits and dogs we have no information.

In relation to the Angora goat we find the following valuable communication from Geo. W. Bond, a wool merchant of this city, in the *Thursday Spectator*:—

I am most happy to furnish you with any information in my power which shall help to prevent the farmers of the country from being imposed upon by any erroneous statements and delusive hopes, respecting the Angora or so-called Cashmere goat, and at the same time to encourage the growth of goat's wool in this country, if it can be profitably prosecuted.

I have received frequent inquiries respecting the value of the article and the probable demand, to which I have invariably replied, that if it could be obtained here in sufficient quantities to warrant the starting of machinery suitable to its manufacture, and could be afforded at about $1 per pound, a steady and permanent demand for it would be created. There are machines at Lowell and elsewhere prepared for wool combing, on which it can be worked, and where some experiments have been made. For the manufacture of furniture plushes and many articles of ladies' dress goods it is very valuable. A gentleman of much experience in the wool trade and its collaterals informs me that it is consumed by less than a dozen houses in Europe, and that in fact one firm consumes about one-third of the whole supply, and has agents in Turkey, purchasing the same. Nearly the whole supply comes from Asia Minor, whence the exports for the past three years have averaged about 4,000,000 pounds per annum. Some is raised and exported from South Africa, but the samples which have been sent to this country have been of a very inferior character, lacking the required lustre and being full of kempy hairs.

Of the specimens raised in this country, which I have seen, some fleeces have been very handsome, but there has been a great want of uniformity in the various lots; some fleeces being very poor and kempy, probably being crosses on the common goat, while others have been as handsome as any that I have ever seen from any quarter. The value in England has I believe at no time exceeded 4s. or $1 per pound, unless it may have been for some exceptional parcels of great beauty and desired for some fancy manufacture in small quantities. The highest quotations in England to-day are 2s. 7d. or 62 cents for the choicest quality, down to 2s. or 48 cents for good.

It was formerly imported into this country, in moderate quantities, when we were manufacturers of broadcloths, and used for head ends and listing, bringing generally about 50 to 60 cents per pound. The introduction of it into Europe for the purposes before named gave it a value too great to allow it to be longer used for such purposes. I doubt whether there ever was a time when 1000 pounds of it could have been sold here for $1 in gold per pound, but a short time since, when fringes and tassels made of it became so fashionable, it is possible that a few of the choicest and most beautiful fleeces might have been sold at $4 and $6 per pound, but even then a well dressed pelt, with long lustrous hair, would have been preferred. Indeed, the manufacturers of such articles in this city expressed their preference of a handsome, lustrous haired sheepskin to a fleece of Angora goat's wool, though the lustre of the latter was more brilliant.

Why is not the mountainous portion of the Southern States well adapted to the production of goat's wool?

CHECK VALVES FOR FURNACES.

In conversing with a friend, recently, upon the different modes of warming houses, he gave us a bit of information which is valuable, and which he has kindly written out as follows:

My hot-air furnace used for warming the house, had a trick common to furnaces, of occasionally drawing the wrong way. In many cases it will be found, by standing out of doors, at the end of the cold-air box, that the heat, especially in windy weather, passes outward. I have learned from one skilled in such matters, how to cure this defect, and with my own hands applied an effectual remedy. What is wanted is a valve in the cold-air box, playing horizontally, which instantly closes with an outward current, and keeps open with an inward current. I made mine and put it in successful operation in less than two hours, and this is how it was done.

The inside of the air-box is 11x28 inches. I made a fram e of light pine stuff an inch square of that size, and covered it with cotton sheeting, tacked on. Then it was hung in this way in the box. Measuring one-third the width from the bottom of the frame two holes, one each side, were bored through it, into which were turned flush, two brass wood-screws, into the heads of which had been counter-sunk with a common tool in a bit-stock, holes about a quarter of an inch deep for the gudgeons to turn in. Then making the valve to fit loosely in the box, another brass screw, the point of which had been filed smooth, was put through each side of the box, forming gudgeons resting in the holes in the heads of the other screws.

This completes the valve, except the stops; as two-thirds the width of the valve is above the gudgeons, it turns outward, on the same principle as a weather cock turns, and a strip must be nailed across the inside of the top of the box, to stop the valve at a perpendicular.

In order that the out-coming air may catch the valve and close it, the valve must not be allowed to open quite full width. A nail driven through the side of the box will stop it at a slight angle, so that the outward current will strike under it.

One thing has been omitted. The valve, before it is hung, must be exactly balanced with lead tacked on to the lower side. With this arrangement no hot air can escape from the furnace. Finally, if this description is not intelligible, it is because I cannot conveniently print a diagram to show this excellent little contrivance to the bodily vision.

ORANGE COUNTY, N. Y., MILK.

In New York city the superlative for good butter and milk is "Orange County." One reason for the superiority of these articles from that section is undoubtedly the good price which has resulted to the producer from a system of marketing by which the middlemen have been *agents* instead of *principals* in the traffic. A writer in the last number of the *Country Gentleman* says:

The milk is delivered at the station in cans furnished by the farmers, containing mostly forty quarts each The purchaser in New York pays the freight, (five and one-half cents per gallon,) and pays us the market price as near as may be determined. The price, last month, (November) was six cents for the first half and seven cents for the last half of the month.

Much of the success of a dairy depends upon the degree of jndgment used in the selection of the cows, many men basing their judgment upon the milk mirror, (M. Guenon's theory,) taken into connection with the general form and size of the cow. In the choice of cows, the best are cheapest, whatever their price may be. The aim being to keep your supply of milk as nearly as possible the same during the whole year, it is not desirable to have any great number of cows calve at any one time. Those coming to milk during the autumn and early winter are the most profitable, as the milk commands a higher price, and the cow, well fed during the winter, milks finely when turned to grass in the spring. Those calving during the winter should receive about one quart of corn meal per day for ten days previous to calving—should be turned into a box stall for calving—should have their drink slightly warmed for a day or two, and carefully, and not too highly fed for the first week. After the second day, the calf should be kept away from the cow—the milk partly drawn before the calf is allowed to feed.

In winter the cows are kept as carefully housed as possible. A barn cellar, one side of which at least should be above ground, is preferred for stables, and the cows are kept in them most of the time, excepting when turned out for water, and in pleasant weather, when they are given two or three hours in the sun. (My own have not been out for two days on account of a violent storm prevailing.) They are milked at regular hours, each one by the same milker, and as near as may be in the same rotation. In short everything which can promote the comfort of his cows adds to the profits of the dairyman.

From the People's Magazine.

SWORD AND PLOUGH.

FROM THE GERMAN OF WOLFGANG MULLER.

There once was a Count, so I've heard it said—
Who felt that his end drew near;
And he called his sons before his bed,
To part them his goods and gear.

He called for his plough, he called for his sword,
That gallant good and brave;
They brought him both at their father's word,
And thus he his blessing gave.

"My first-born son, my pride and might,
Do thou my sword retain;
My cattle on the lordly height
And all my broad domain."

"On thee, my well loved younger boy,
My plough I here bestow,
A peaceful life shalt thou enjoy
In the quiet vale below."

Contented sank the sire to rest,
Now all was given away;
The sons held true his last behest,
E'en on their dying day.

"Now tell us what came of the steel of flame,
Of the castle and its knight;
And tell us what came of the vale so tame,
And the humble peasant wight?"

O ask not of me what the end may be!
Ask of the country round!
The cattle are dust, the sword is rust,
The height is but desert ground.

But the vale spreads wide, in the golden pride
Of the autumn sunlight now;
It teems and it ripens far and wide,
And the honor abides with the plough!

MOVEMENT OF STOCK.—A. M. Winslow & Sons, Putney, Vt., have recently sold the following Short-Horns: the bull calf Rising Star 2d, by Rising Star 5129, out of Pocahontas 5th, and the heifer calf Madonna 11th, by Rising Star 5129, out of Madonna 6th, to John Campbell, Montgomery, Vt. Also, the bull Young Marmion, by Marmion 1843, out of Starlight, and the cow Madonna, 5th, by 2d Prince of Orange 2183, out of Madonna 3d, and the heifer Madonna 8th, by Rising Star 5129, out of Madonna 6th, to H. A. Rice, Henniker, N. H. Also, the heifer calf Wallflower, by Rising Star 5129, out of Lady Sale 7th, to D. S. Pratt, Brattleboro', Vt.

Mr. L. A. Dow, Waterville, Me., has sold the Short-horn bull calf Gen. Warren, five

months old, to Mr. Eben Galucia, of Clinton. His pedigree is recorded in the 8th volume A. H. B.—*Country Gentleman.*

For the New England Farmer.

DEEP OR SHALLOW MANURING.

I was very glad to see a discussion in your columns between "H." and "H. P." on the all-important subject of the mode of applying manure. But as these writers do not agree whether it should be covered with the harrow or the plow, we seem to be left just as much in the dark as before. True, each one gives some reasons for his peculiar practice; but while one argues that rain washes the essential parts of manure into the soil, whence it is taken up by the crops; the other, with equal confidence, affirms that if plowed in, the gases rise and are principally saved by the soil, from evaporation. Now, both of these propositions can be true only in part, and exactly where the truth lies is the great question that needs to be discussed until farmers *know* how deep manure should be buried to give the best results and in the shortest time.

If manure evaporates by being exposed to the air, then the quicker it is covered the better; but if its best qualities are taken out by rain or water, and in that state can best be taken up by roots of crops, then we might almost say that no covering was needed. Until this point is pretty thoroughly settled, I hope that farmers will continue to discuss it, and that chemists will not withold their aid.

And now, dear FARMER, lest I should be thought a mere critic, I will give some of my own views on this important subject, although I confess it is beyond my comprehension. Perhaps your readers will think that the more I say about it, the more I expose my ignorance; yet, in the hopes that what I say may induce wiser heads to add a word or more on the subject, I venture out.

Well, then, in the first place, I think no roots of grass, grain or any vegetable will run its nose against a piece of *raw* manure, any more than it would against a coal of fire; and that until it is diluted with water and mixed with earth, it cannot be taken up and appropriated by any plant or tree, shrub or vine,—that water is about the only thing that can take the real growing or producing properties out of manure and convey it to plants. I also think that the tendency of water is downward, and that the earth is so made as to absorb or take up all the essential fertilizing properties of the manure as it passes through it in less or greater distance. Of course, if manure is plowed under, say one foot, it is buried, not only out of sight, but out of the reach of any grain or grass grown in this land, but may be reached by the roots of some tree or vine, and so brought back again to the surface. It is undoubtedly true that some soils will take up all the fertilizing properties of manure in a much shorter distance than others. Still the soil is what holds and imparts the life-giving food for vegetation. But whether *coarse* manure is best plowed in, or well composted in the barn-yard or some other place, and harrowed in, or applied as a top-dressing, is yet an open question, the right side of which farmers ought to know and practice, for the right application of manure is as important as any part of a farmer's business. I find that many farmers are practicing top-dressing with good success and perfect satisfaction. There is a neighborhood of farmers in Glover, Vt., who plow their land in the fall, harrow and spread on their fall manure, and harrow again, and early in the spring sow wheat and stock down, with the very best results, both for wheat and grass. This practice is extending, whether it is the best or not. I have known other farmers plow in a heavy dressing of manure so deep that they said they never heard from it afterwards. Now as both ways are practiced, and as one is most likely better than the other, let the matter be so fully discussed these long winter evenings, that farmers may go to work the coming spring with more confidence than heretofore.

A READER.

Fairlee, Vt., Dec. 21, 1867.

For the New England Farmer.

A WORD TO FARMERS' SONS.

To every farmer's son I would say, get an education. Do not be content with what is taught in a district school alone,—mere reading, writing and ciphering,—which are not an education. Rather aim higher, but be sure you aim with a weapon that will hit the mark. I will not advise you to leave the paternal roof as soon as you are old enough, for the sake of completing a course at one of the many so called business *colleges*, then to be a clerk in some house at a fixed salary per annum. To many, the life of a merchant seems nought but a season of golden pleasure, so the farm and the home, with their many pleasing memories, are left behind for the attainment of their ideal life.

Such a course and such a life I would not recommend. Some may be needed for clerks, salesmen, apprentices, and tradesmen, but not all. Some few may be called to a professional sphere, but not the majority. The farm needs you, and should you heed its call, then fit yourself for the place you have chosen. Farming is ranked among the professions, and the members of each profession need and must have study, else their attempt will be an utter failure.

Do not merely "go to school,"—that does not imply getting an education. To be *a graduate* of any institution, whether agricultural, mercantile, scientific, or literary is an empty honor—the palm is for the application of theory to practice. Our institutions send

forth too many young men, who, having remained three, four, or more years, as the case may be, *at* or *in the vicinity of* the institute, are labelled as graduates and sent away. Agriculture demands young men of a different education and of different habits. It needs theory and practice, education and labor.

Now you may ask, of what shall my education consist, and where can it be obtained? I would answer the question by asking another: Of what good are our agricultural colleges? Two classes of objectors against them will arise: the one, the stolid, old, time-forgotten farmer, who is opposed to "book learning;" the other, the over-dressed sneerer at his superior, the laborer. He may, perchance, ask if you can trace the lineage of a Durham calf,—he *might* go further and solicit inquiries concerning his own ancestors. Many are really ignorant of the purport of an agricultural college.

It is a place where an *energetic* young man can learn the theory of agriculture, and also its practice, and thus by combining the two, become a model, profitable and successful farmer. It is a place where he can, if he will, fit himself for one of the four great professions. Among the first things learned will be a course in mathematics, by which you will be fitted as your own surveyors. You will learn chemistry,—chemistry, as applied to agriculture; then cultivation of the soil; fruit, grain, and root raising; a complete nursery culture; market and landscape gardening; horticulture, forestry, animal anatomy, physiology, and hygeine, all kinds of stock-raising, orcharding and fruit culture, and many other things. Instruction will also be given in writing and composition, so that you may not only keep your own books, but be able to write a statement for the farmer's club, or report its proceedings and its doings, and, it may be, to edit a farming paper. You will also be taught how to be your own architect, mechanic, lawyer, physician,—in fine, it will teach you how to become a perfect professional man, independent of your neighbor.

Would you become all this, you must not only learn, but carry into practice what you have learned. Some may say all this book learning will not make a good farmer of you. *They are right,*—it will not. Theory will not make a farmer, neither will labor alone,—success demands and cannot be obtained without both. If you think an agricultural college alone will make you a "lord of the soil," time will reveal your error. If you think you can be a successful farmer without some such educational course, another error will be shown. It is only a combination of both which can bring success as a result.

We speak of "the top of the heap," in a colloquial way. You never can attain it if you labor under the impression that you can be successful in any profession without energy in the preparation. Do the foundation work well, then the superstructure may be more easily reared.

Concerning the professions, I would also say a word. Let every farmer's son look at the statistics of every graduating class of our colleges, and see what numbers take up the study of law and medicine, and consider what chance there is for an individual man among such numbers, unless he be determined to reach the "top of the heap." The law is now crowded, and, fortunately for us, our physique is such that but a small proportion of our young men can find occupation as guardians of the public health.

Then let every farmer's boy look at the "old place,"—not as if distance was the only enchantment,—but impartially. It will have a new tie for him. Let him think what his father has done, and see if he cannot do better. Let him think what the times are. Let him weigh his chances among the professions, among the merchants, the mechanics, and among agriculturists. Let him think what farmers can do, what rank they may attain, and what preparation is needed.

CHAS. E. HALL.

Hanover, N. H., Dec., 1867.

REMARKS.—The writer of the foregoing communication modestly offers it as the production of a farmer's son. The course of study he has sketched for the students of our agricultural colleges is certainly quite comprehensive; but as it may be no more so than that marked out by many other minds, we most willingly submit his views and expectations to the consideration of the public and of the managers of these institutions, although we may be less sanguine than himself of attaining entire "independence of one's neighbor" by any combination of education, theory and practice in agriculture.

THE HEN FEVER.—There are unmistakable symptoms that this epidemic is about to rage with fearful violence. Already there is a good deal of hen talk in the cars, and sober merchants as they pass to and from their business discuss earnestly the merits of improved coops, and talk learnedly of the varieties of feed most conducive to the health of growing fowls. Poultry shows in various sections give ample promise that the wants of fanciers can be met both as to price and name, and although the high priced fowls are called by names that were unknown to Burnham, yet the birds, as formerly, seem to be noted chiefly for depth of voice and length of leg. At a recent show in New York, a pair of Houdan, which is the favorite variety this season, were held at $1000, and a pair of Creve Cœurs were ticketed at $250. Other fowls were held at lower prices, down to the insignificant

sum of $25, which was the price asked for a cross-eyed bantam. As voice and gait are the most desirable qualities in fancy fowls, we were not surprised to learn that a Houdan with a powerful falsetto voice, could not be bought at any price, although Commodore Vanderbilt pr Bonner will eventually secure him, even if it takes the New York *Ledger* or Erie Railroad to pay the bill.—*Bos. Spectator.*

HUTCHINS' IMPROVED FUMIGATOR.

Patented October 23, 1866.

This instrument is used for the purpose of blowing tobacco smoke into the wool of sheep, to kill ticks; also, to destroy lice and other vermin on cattle, plants and trees.

BELGIAN DOGS.

The dogs of Belgium perform so important a part in the every-day traffic of the city, being, in fact, the "beasts of burden" of the common people, that we cannot omit a brief notice of them. All the milk used in Antwerp is brought hither in dog carts, filled with rows of shining brass cans, which are conveyed from house to house until their contents are exhausted; then the milk woman supplies the absence of the weight of the lacteal fluid with her own substantial person, and the little team goes jogging homeward to the country. These carts are sometimes of a very considerable size, and may be seen, filled with barrels, or bundles of wood, under which circumstances the motive power is increased to six or seven dogs, three and four abreast, tugging and pulling at their great burden, their poor little bodies swaying to and fro in their efforts, and their general appearance and expression—for dogs have expressive faces—exciting the sympathies of every humane person. When overcome by fatigue, hunger and thirst, they lie down in harness and resolutely refuse to move until they are fed; an instance of which we had an opportunity for witnessing one evening as we were riding on the Longchamps. A laden team was coming in from the country to attend the next day's market, when, just as we were passing, a most piteous howl broke from one of the dogs, which was echoed by the others, and all stood still in the middle of the road, some crouching on their haunches and some prostrating themselves on the ground, with their tongues lolling from their heated mouths. The man who had them in charge cracked his whip in vain, and then, finding all efforts useless, unharnessed them, when, in an instant, the whole line bounded down the grassy bank of the rampart, and plunged into the cool water of the moat. Here they stood for some moments refreshing their heated bodies, catching at the water with their mouths, and seeming to toss it above their heads, when a shrill, prolonged whistle from their master caused them to rush suddenly up the bank, and ere long the team appeared again in sight, trotting merrily onward toward the bridge. Their owner, on the occasion of their hungry demands, supplies them with pieces of coarse brown bread, which he carries on the cart, and it is a common sight to see him standing in front of his team, dealing to one and another the mouthful which they eagerly devour.—*Correspondence of N. Y. Citizen.*

WOOL GROWERS' MEETING.

The annual meeting of the New York State Sheep Breeders' and Wool Growers' Association was held at Syracuse, Dec. 12, 1867.

President Randall, on calling the meeting to order, announced the death of Victor Wright, Esq., of Middlebury, Vt., with an eulogy on his character as a man, a breeder of sheep and an efficient friend of the National and other Wool Growers' Associations.

A resolution was adopted that the usual Fair of the Association will not be held next spring, that members may co-operate with the proposed National Wool and Woolen Exposition.

The opinion of the convention upon the condition and prospects of the business of wool growing in this and in other countries was expressed in a series of resolutions, for which we have not room in our columns this week.

Hon. H. S. Randall was re-elected President; E. B. Pottle, Naples, Corresponding Secretary; H. D. L. Sweet, Recording Secretary; with the usual Board of Vice Presidents and Executive Committee.

TRICHINÆ.

Having had trichinæ in my family last spring, and knowing its terrible effects (having lost my wife and one child with it), I thought to write an account of the workings of the disease in its early stages; thinking, perhaps, others may be profited by a knowledge of it, for, if taken in time, it may be cured by active cathartics, often repeated, so as to carry them out of the stomach. I purchased on the 1st of March, a ham of a grocer, of which we all ate raw. I ate a piece about as large as an old-fashioned cent; the first effects were felt in four or five days in soreness in the muscles, with no pain, except when we moved, then nausea and vom-

iting, with some diarrhœa. These are the first symptoms; after these, in the course of as many more days, the eyes will become much swelled and sore, and painful upon coming to the light. My wife lived only two weeks after the swelling of the eyes; a son, 4½ years old, lived a day or two longer; another son, 8 years old, began to recover at the end of about four weeks, and is now nearly well. My soreness left me in about forty days, and now I am nearly well. Another son of 13 years has been exceedingly sore for two months; it has not entirely left him yet; and he is very weak and emaciated, but is better; his soreness is not all gone yet. Cooked meat will not give the trichinæ, as our school teacher eat of it four or five times, and was not affected, for it was cooked.—*J. M. Haight, Iowa, Mich., in N. Y. Tribune.*

HAULING WOOD.

While the first snow was pearly under feet,
A team crawled creaking down Quompegan Street;
Two cords of oak weighed down the grinding sled,
And cornstalk fodder rustled overhead;
The oxen's muzzles, as they shouldered through,
Were silver fringed; the driver's own was blue
As the coarse frock that swung below his knee.
Behind his load of shelter waded he;
His mittened hands now on his chest he beat,
Now stamped the stiffened cowhides on his feet.
Hushed as a ghost's; his armpit scarce could hold
The walnut whipstalk slippery bright with cold.
—*J. R. Lowell.*

Beet Sugar in Germany.—A German agricultural journal gives an interesting account of the beet sugar business in that country. Fields of beets of from two to three hundred acres are often seen there. The beets are drilled in rows about fifteen inches apart and the whole labor of cultivation performed by the hoe. The women and men work in gangs of twenty or more. The men get from sixteen to nineteen cents per day and the women from thirteen to fifteen—working fourteen hours. The manufactories for this sugar are on a correspondingly large scale, some of them employing a thousand hands. The beets are brought from the field and elevated to the upper story of a high building, where they are cleaned, crushed and filtered, the juice descending from story to story, undergoing a refining process by the way till it reaches the lower one in the shape of a sugar cone two and a half feet in length. It is a very nice article and worth at the factory about ten cents per pound. It takes eight days from the time of crushing the beets till the sugar is dried sufficiently for market. One of these establishments turned out six millions of pounds last year with the help of six hundred hands.

A Texan Sheep Farm.—Out on a broad and glorious prairie, between the creeks of San Gabriel and Brusky, in Williamson county, I found Messrs. Voorhees & Crouch, living in a very plain and patriarchal style, on one of the finest ranges I have seen in the State. Over hundreds of acres of their grazing lands, there is not a bush large enough to hide a hen. Their flocks go off in the morning over the beautiful slopes, and from many single points the shepherd can overlook his herd of ten or twelve hundred head, for two or three hours, without changing his position. For such as choose an open range, I have never seen a finer one. I found their flocks in a thriving condition, and numbering between three and four thousand. They are being rapidly graded up by the use of imported bucks, and their clip of wool will soon be among the first in the State. These gentlemen incorporate in themselves the elements of success, for they both understand the nature, habits and wants of sheep, and have the patience and skill to give their flocks just the treatment they need.—*Dr. Boynton, in Mirror and Farmer.*

The Teeth of the Horse.—A horse has forty teeth—twenty-four double teeth, or grinders, four tushes, or single file teeth, and twelve front teeth, called gatherers. As a general thing, mares have no tushes. Between two and three years old, the colt sheds his four middle teeth—two above, and two below. After three years old, two other teeth are changed, one on each side of those formerly shed; he now has eight colt's teeth, and eight horse's teeth. When four years of age he cuts four new teeth. At five years old the horse sheds his remaining colt's teeth, four in number, when his tushes appear. At six years of age his tushes are up, appearing white, small and sharp, while a small circle of young growing teeth is observable. The mouth is now complete. At eight years of age the teeth have filled up, the horse is aged, and his mouth is said to be full.—*Turf, Field and Farm.*

Massachusetts State Statistics.—The Secretary of the State of Massachusetts has recently published the abstract of the census of 1865, by which it appears that this State is still first among the States of the Union as regards population per square mile. The population of the State to-day is 1,281,700; in 1865 it was 1,267,031. Males, 602,050; females, 665,021—showing an excess of 63,000 females over the number of males. Of the total population, 828,158 are natives of the State. The foreign element is relatively most numerous in Suffolk County, where 33.12 per cent. of the whole population are foreign born. The number of dwellings was returned as 208,698. Of the 10,167 colored persons in Massachusetts, 2,348 are found in Boston and 1,517 in New Bedford, and in fifty-eight towns there is no colored person. The largest numbers in the table of occupations of females are: Domestics, 27,393; operatives, 20,152, and teachers, 6050.

Ladies' Department.

From Blackwood's Magazine.

LITTLE ROSE.

She comes with fairy footsteps—
  Softly their echoes fall—
And her shadow plays like summer shade
  Across the garden wall.
The golden light is dancing bright
  'Mid the mazes of her hair,
And her fair young locks are waving free
  To the wooing of her hair.

Like a sportful fawn she boundeth
  So gleefully along;
As a wild young bird she caroleth
  The burden of a song.
The summer flowers are clustering thick
  Around her dancing feet,
And on her cheek the summer breeze
  Is breathing soft and sweet.

The very sunbeams seem to linger
  Above the holy head,
And the wild flowers at her coming
  Their richest fragrance shed,
And Oh! how lovely light and fragrance
  Mingle in the life within;
Oh! how fondly do they nestle
  Round the soul that knows no sin.

She comes—the spirit of our childhood—
  A thing of mortal birth,
Yet bearing still the breath of Heaven
  To redeem her from the earth.
She comes in bright robed innocence,
  Unsoiled by blot or blight,
And passeth by our wayward path,
  A gleam of angel light.

Oh! blessed things are children—
  The gifts of heavenly love;
They stand betwixt our world-hearts
  And better things above;
They link us with the spirit-world
  Of purity and truth,
And keep our hearts still fresh and young
  With the presence of their youth.

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER VII.

MAKING AND MENDING MEN'S CLOTHING.

[CONTINUED.]

In the choice of materials for outer garments men generally like to consult a woman's taste and judgment. If she is not commissioned to purchase, as she generally is for the clothing we have already considered, her *opinion* is of great consequence in the matter; and she is so well aware of it that she does not hesitate to express it freely—even if it be uncalled for. (In performing which benevolent service the writer of these chapters is not at all backward,—as her readers have probably discovered before this time.)

Ready-made clothing can be bought so low that many persons prefer buying to having the trouble of making, or getting it made. But a good fit is seldom obtained in a ready-made garment, and there is great risk of being deceived in the quality of its materials; while the making is never very good—seams rip, linings sag, buttons come off, and button-holes break down. It is very much more economical to employ a tailor whom you can trust to make it. Or, if you cannot afford that, get a good pattern of him, and make it yourself. In getting patterns, don't be hasty to adopt new fashions, neither be the last to hold to the old styles. Above all things avoid all fanciful designs, either in the cut of a garment or its trimmings, and remember that a well-dressed person is one whose dress never attracts attention.

If you decide to make coat, vest, or pants yourself, and the material of the outside is woolen, take off its selvage, and shrink the cloth.

The advantage of this is that very little cloth being water-proof, this dampening, evenly done, prepares the nap to receive all subsequent wettings without being spotted. And, also, as woolen cloth always shrinks in wetting, it is better to have it over before it is attached to linings that will probably always remain the same.

To accomplish this well, wring a sheet through warm water. Fold it, its whole length, through the middle. Spread it on a table, and lay upon it the cloth, very smoothly. Then fold cloth and sheet together, across their width. Let them lie thus an hour; if the cloth be very thick, two hours. At the end of that time remove the sheet, and hang up the cloth where it may dry smooth and straight.

For cutting: having procured patterns from a tailor, or, as directed for a shirt, use the same measures; adding to them one around the waist, and another down the waist, just under the arm;—for the length of pants a measure from the waist to the heel of the boot; and with these calculate what variations the patterns need.

In passing your hand over dressed cloth you will notice that a down stroke keeps the nap smooth, an upward one roughens it; so, in cutting, be sure that all parts lie the same way. Not only would a mistake in this cause portions of the garment to feel disagreeable to the touch, but make a difference in the shade of the color.

It is sometimes necessary to piece the cloth. This is called ranting; it is very careful work. See that the nap of each piece to be joined falls the right way. Baste the edges of the two together, in overstitch. Flatten this loose seam, and with a fine needle and silk pass close, short stitches across from edge to edge, below the nap;—no stitch, not a speck of the silk should be visible. It is slow, nice work; but with little practice it can be skillfully done. Dampen the seam and press it on the wrong side. A stronger way (it is generally done with thinner cloth) is to stitch the seam on the

wrong side, like the usual seams, and then do the pass-stitches on the right side, as described above.

All buttons, button-holes, and pocket corners must be stayed with strips of stout linen, or silesia, laid between the lining and the outside, through which the stitches are taken. Beside this, the corners of pockets should be stitched across twice, strongly, and barred in button-hole stitch.

You will need drilling, silesia, or linen for pockets and linings; also padding and canvass, to shape the coat and the vest,—as you will see by ripping an old one. Facings are strongest of alpaca; likewise bindings. Don't omit to sew leather shields—narrow strips of thin leather or thick kid—inside the hems of pantaloons; and along the lower edge, inside, of vest-fronts. These give a stiffness to those parts, and also protect the cloth from too great wear.

All seams are rubbed as flat as possible, dampened, and then pressed with a hot iron on the wrong side. If you do not wish a seam to show, scratch the nap in its channel, on the right side of the cloth, (using the point of your needle) till the seam is hidden. This before pressing. It will look well for some time, but is not so good a way as ranting.

When a garment is torn, mend it as soon as possible. Don't say it looks like an accident just met with,—as I have heard some say, for weeks. A tidy patch is better than a hole any time. I don't know a more pitiable object than a man with rents pinned up; or, elbows out, buttons off and edges frayed.

In mending, always match the exact shade of the cloth with the silk or thread you use. If the cloth be thin, and worn, around the hole, cut it out to form a square, and in each corner of this aperture make a short, oblique gash; this is to prevent puckers in the seam of the piece to be inserted. If the cloth is ribbed, striped, checked, or plaided, it must be correctly joined in these respects by the piece; also, whether plain or variegated, the shade of the color must be the same, if to procure it you are obliged to wash, or to fade some of the material. Very often, exposure to sun and air so alters the color of some parts of a garment that it is totally unlike the original tint of the cloth.

If the cloth is good, and you have only a new rent to mend, line it with some thin material, similar in color; and, if possible, darn it with threads ravelled from cloth from which the garment was made. In threading your needle with a woolen ravelling use very fine cotton, or a hair, to draw it into the eye. Take very small, even stitches over and through the torn and frayed edges;—it must be done slowly and carefully;—the darn ought not to look unlike a rough place in weaving. After you have sewed it to look as neat as possible (the extreme edges in overstitch) dampen and press on the wrong side.

Never sew up any hole carelessly,—"just for the present,"—mend it well, at once. The longer it is left, the more difficult it is to make it look nice; because the loose threads get broken, and the rent stretched out of shape.

When bindings are worn through sew them in overstitch, or darn them, if you can make them look well by so doing; if not, replace them by new. If the hems of pantaloons, or the turned back cuffs of coatsleeves, are in the same condition, cut them smooth and then turn the edge of the outside as narrow as possible for a seam. To this fell the hem or facing;—if the cloth be thick, this need not be turned in, the raw edge will make a neater seam;—if it be thin, turn in as narrow a portion as of the outside. Some persons bind such edges with wide worsted braid; but, unless the garments are short, don't adopt that method, it is apt to look clumsy.

A man's clothes may be made to last double their time by careful repairing. When coat, vest, or trousers looks wrinkled, and out of proper shape; elbows and shoulders and knees, of black or blue cloth, threadbare and *whitish*; buttons off, loose, or bursting their coverings; button-holes stretched, or broken; sleeve linings out at the cuff, or worn away from the arm-size, and seams and edges frayed—a bad case, with such a complication of disorders—but, nevertheless, such as is frequently met with in the best of families—you must give it a good day's work. Brush it thoroughly, in the first place. Put on buttons where needed, and strengthen those that remain, in the next. Pare delicately the edge of worn button-holes, pick out all the stitches, and make them as if new. Put in new sleeve linings, or mend with new around the arm-size. Make everything firm, and strong, and neat about the pockets. Line all thin places: knees and elbows with pieces wide enough to be attached to each side seam; and cross-stitch the other two ends to the main cloth by needle and silk so fine that no print of the stitches shall be seen on the outside. If elbows and knees are stretched into a swelling shape, after all sewing is done lay a damp cloth upon them, fold them up, and let them remain thus an hour. Then lay them on a table; smooth them with the palm of the hand; pull them gently, all ways. Continue this till the swelling is reduced—elbows and knees straight and flat. Then press the whole garment on the wrong side, finishing those places first.

If a black article of clothing gets rusty, dilute a little ink with warm water, and sponge it well with this,—for seams and edges use a pen: button-holes often need this treatment. If the shoulders look quite grey take the ink undiluted, and be sure to rub it in well. Then press it. For blue proceed in the same way, using blue ink. Cashmerette and alpaca, when faded, are much improved by this process.

Never throw any article of dress aside, that is considered worn out, without examining it to see if some portion of it may not be used again.

Backs of vests will often outlast two new fronts; and the padding and stiffening will do to go in a number of times,—as, also, those of coats. Pockets, sometimes, will do to use again, after they are washed and ironed. Facings and sleeve linings can be cut over and ironed—if necessary, washed—to be used in repairs. Generally, a number of buttons may be saved for future use. And of the outside material, if an overcoat, a sack or a jacket may be cut; if a frock coat, perhaps a boy's vest, or small sack; if pants, a vest for a man. This should be all carefully ripped, the stitches and the lint that collects in the seams removed, the cloth brushed and sponged; if it is greatly faded pressed on the right side, and when next used made up wrong side out; if not, still keep the same side out. In a large family this second hand stock is very valuable; and if not wanted for your own use there are always calls enough for it in the way of charity.

Neckties, and cravats, if of gingham, or muslin, should be of fast colors, and hemmed all around as narrowly as possible. If of silk, black Italian is the most common, and the best. Beware of the glossy, shrill-rustling kinds—they are soon frayed and broken. When the corners of a cravat get worn, cut off the end to a good point and hem anew. When too short for this, cut the cravat across the centre, and sew the two pieces together so as to bring new points for front ends. Very good neckties and scarfs may be made of ribbon folded over two or three layers of cambric or silesia; the seam at the edge, and around the ends, being done with a long needle, in slip-stitch—which is only drawing the folded edges together with long stitches that are kept out of sight.

The most comfortable, and the most economical, garment a man can have for home attire is a loose lounging-coat,—study-coat,—or dressing-gown,—whatever you please to call it. Its use has often saved double its cost in the wear and tear of the more tightly fitting coat which custom demands for out-of-door costume, and hours of toil for many a housewife, who feels it her duty to see that that costume is always neat and tidy.

The Russian and other imported robes that are manufactured for this purpose are elegant, but expensive; and seldom so serviceable as thibet, or merino,—or even cotton and wool cashmere or delaine; while common calico, if of fast colors, is a good material for a coat designed for summer wear. Large-flowered patterns, the figures running into each other, do not show soiling, or rough usage, so much as plainer styles; still, fabrics of one color alone—brown, or green, or blue—with facings and trimmings of a contrasting tint, are much handsomer, and, with care, may look well a long time.

Take for a guide in the cutting of this garment, a common sack-coat, and fit the neck, shoulders, and chest, well, by the measures used for an overcoat. Make it loose and comfortable, yet smooth and neat in the fitting. As to its length, suit the fancy of the wearer;—some like such a coat very long—reaching nearly to the ankles, others prefer it short—a mere jacket. These short coats, or jackets, should always be made of plain material, trimming, or embroidery of braid, running along the edges and over the collar and cuffs. The longer garment looks best without ornament, save facings, or cuffs and collar, of a different color. It needs a girdle of large cord; and to the back of the coat, at the waist, should be stitched two narrow bands, to encase this in its proper position.

A lounging coat for winter use should be warmly wadded—the facings quilted;—but, between the outer cloth and the wadding, across the back—from the end of the shoulder seam nearly to the girdle-bands—a piece of the same material should be laid—to guard against the great wear of the shoulder-blades; also, in the sleeves, from above the elbow to the waist.

From the remnants left after making a lounging-coat you will have ample cloth for a smoking cap, to be worn with it. The simplest form, a jockey, is the best. For this, take a measure of the head above the forehead; and from pasteboard—or, better, stiff padding made of three or four layers of stout cotton cloth pasted together—cut a band one and one-half inches wide, the length of this measure. Cut, then, a circular ring of stiff paper, one inch in width, whose shorter circumference shall exactly fit this band; and, for a cover, cut a round from stiff paper, whose edge will match the larger circumference of the ring. This top of the cap may be made of six, or eight, points, meeting in the centre; the outer corners more or less sharply defined, according to fancy.

This paper frame before putting together is the pattern for cutting the cashmere or thibet for the outside, which, after being stitched, should be tacked to it at the seams. Cambric, silesia, or silk, to which a layer of sheet wadding is basted or quilted, may line it. With this, as with all garments, the lining and facing, though cut of the same shape as the outside, should be less in size,—if no wadding is used, a seam's width must be allowed, at least,—or there will be folds and wrinkles to trouble the wearer, and to deface and injure both lining and outer cloth.

Cord the seams of this cap with piping like the facing of the coat, and cover the head band with the same. If of plain material, embroider the top with braid, and finish it at the centre with a fancy button or rosette.

Men's hats and caps are seldom of home manufacture, but they often need repairing, a new binding, or, a clean lining; which can easily be done by observing how it is when new. Felt hats are apt to get out of shape: they can be restored by dampening, and pressing, either upon a block of the proper form, or a pail or pan covered with cloth. If a felt hat gets torn "rant" the hole, according to the directions given for woolen cloth.

Mend a straw hat that is broken or ripped by pasting cloth to it on the wrong side; or by sewing to cloth,—in that case damp the straw first, and, afterwards press it.

The heels and toes of stockings should be run closely with yarn, or lined with bits of old stocking or flannel. If a person's occupation obliges him to wear coarse boots there should also be pieces on the outside of the heel. If he does much walking, these may be of soft leather, or kid, but they must be taken off when the stockings are washed.

The darning of stockings neatly requires a great deal of patience, and is very distasteful to most persons: I think mending never comes easy; but one can learn to like it—we always like to do what we can do well—and I have heard many remark that the satisfaction they have felt in seeing how they have restored and renewed old things was a much pleasanter experience than the making of new. You know the old Indian superstition that the strength of the victim passes into the form of his slayer? Let us take this for our faith, in overcoming all difficulties. But I am digressing.

To return to our subject: Always begin a darn some distance from the hole, and thicken with yarn all the thin part. It is quicker to mend it in basket, or weaving, stitch. But where the darn comes in an exposed place the knitting should be matched by a chain stitch. To do this darn a thread of yarn across the hole, (on the outside of the stocking) connecting stitch to stitch; and when the hole is thus barred pass across them with yarn, making a loop-stitch on each bar—it is similar to button-hole making. Fill up the hole in this manner, being careful to join the new stitches neatly to the old ones at each side and end. This is the only proper way to mend knit, or woven, mittens and gloves. Never sew together, or draw into a bunch any rent in stockings, or in these; besides being unsightly they feel very uncomfortable.

Leather, or kid, gloves and mittens should have their rips sewed with a short needle, in the same holes that the first sewing made, and with thread, or twist, of the same color. If a glove, or mitten, get stretched in the wrist baste up the fullness on the seam that passes to the little finger—it should be taken out in the shape of a gore. Try it on, and if it suits then cut this gore out, and sew up the seam on the outside, exactly like the other seam. If the thumb be too tight, as is frequently the case, rip the seam carefully; try it on, see how large a bare place appears through the aperture; cut a piece of kid from an old glove of the same color, make it of the right shape to fill the aperture, and sew it in as nicely as the other seams are sewed. If gloves are not stayed at the wrist, take a small piece of similar kid and stitch it there on the wrong side.

Nice house shoes, and slippers, may be made from woolen cloth, either embroidered with worsteds or braid or cord, or kept plain. Carpeting also makes good slippers. Old coat collars quilted together make good soles—so do pieces cut from old felt hats. For patterns get an old shoe, or slipper. Each part should be lined and bound separately. Paste together two or three layers of cotton cloth for a heel-stiffening. After each part is bound sew them together with strong linen thread well waxed. These are very comfortable shoes for winter.

Leather boots, and shoes, often last longer for a few stitches deftly set by a woman's hand; so don't overlook them. Seams rip—elastic gores break out—and straps start off—and now and then the leather cracks, all of which a strong thread, well waxed, in a good, stout needle can remedy.

Those who wish to protect their clothing from smut, or soil, do well to wear a large apron, fitted to cover the shirt-front, fastened with straps about the neck and around the waist; or, what is called a *skeleton*, cut according to the front of pantaloons and having a waist covering like that of the apron. This is fastened by straps around the ankles, and also about the waist and neck. Better still, they will do, to use a frock and overalls, or a jacket and over-pants. These should all be made of stout drilling, or frocking. Blues and greys are the best colors. It is impossible to keep white looking clear and clean. If you get blue be sure that it is an indigo dye—this is the most lasting. Make these garments with good, strong thread, and in the most thorough manner; and always keep them in good order: they are to bear rough usage, you know, and must be capable of warding off accidents which otherwise would befall the clothing worn beneath. In this way they often save ten times their value, beside lessening the housekeeper's amount of washing.

All clothing should be marked with the owner's name. If of cotton, or linen, write it plainly with indelible ink in some unnoticed part. If of woolen, write it upon slips of linen, or cotton, and sew them to the articles. For clothing that seldom needs washing starch and iron the cloth and use common ink. If you have no indelible ink, and you see that the owner of the clothing has often a silvery, or a golden, heading to his dark beard, or moustache, ask him to lend you the little phial that he keeps hidden in the closet; and use its contents in the same way as common ink, for any, even the nicest of clothing.

I think I have now spoken of all important points. I wished the making and mending of men's clothing to be clearly understood by those who know the least about such matters. Keeping this class of readers in mind, I have tried to simplify the subject. Hence, many of my suggestions and directions may to some appear trivial; but if to any I have made the performance of this work easier and pleasanter, it is of no consequence how humble were the means.

NECESSARY RULES OF SLEEP.

There is no fact more clearly established in the physiology of man than this, that the brain expends its energies and itself during the hours of wakefulness, and that these are recuperated during sleep. If the recuperation does not equal the expenditure, the brain withers—this is insanity. Thus it is that, in early English history, persons who were condemned to death by being prevented from sleeping, always died raving maniacs; thus it is also that those who are starved to death become insane, —the brain is not nourished, and they cannot sleep. The practical inferences are three:—1st. Those who think most, who do most brain work, require most sleep. 2d. That time "saved" from necessary sleep is infallibly destructive to mind, body, and estate. Give yourself, your children, your servants—give all that are under you, the fullest amount of sleep they will take, by compelling them to go to bed at some regular hour, and to rise in the morning the moment they awake; and within a fortnight, Nature, with almost the regularity of the rising sun, will unloose the bonds of sleep the moment enough repose has been secured for the wants of the system. This is the only safe and sufficient rule; and as to the question how much sleep any one requires, each must be a rule for himself—great Nature will never fail to write it out to the observer under the regulations just given.—*Dr. Forbes Winslow.*

GREAT GLACIER OF NEW ZEALAND.

The Westland (Eng.) *Observer* has an account of a visit paid recently by the chief officers of the geological department to the great glacier on the west side of Mount Cook. The foot of the glacier, which is but thirteen miles from the sea, is 1900 feet wide. Neither the glacier nor the immense field of snow which feeds it is visible from the river until within a quarter of a mile of it, when the stupendous mass of snow and ice at once breaks upon the view. Below the glacier a recent moraine extends for several hundred yards, consisting of debris of the rock, twenty feet deep, underlaid by ice and snow, through which considerable streams of water run, which are rendered visible in round holes, caused by the giving way of the ice and by cracks in the surface. On the southern side there has recently been a great fracture of the ice and breach of the rock, which had fallen in immense masses. The party ascended on the northern side, where the snow or ice formed rounded hills, undisturbed by any cracks or fissures. The glacier matter is porous, and presents tolerable footing; it is of a gray color, full of small dirt with occasional stones, which had evidently fallen from the surrounding hills. The great peculiarity of this glacier is not only its immense size but the consequent fact of its descending to so low a level—640 feet above the sea level—instead of ending, as is usually the case at an altitude of some 3000 or 4000 feet, close to the limit of perpetual snow, among Alpine vegetation. Here the green bush extends some thousands of feet above the glacier, on the steep sides of the range in which the glacier has cut the deep narrow gorge. Not a single Alpine plant rewarded the research of the party, and the temperature on the glacier was scarcely below that on the flat below. With some ceremony the party named it the Victoria Glacier. The height of the peak of Mount Cook is found to be 12,632 feet.

SILK-GROWING IN CALIFORNIA.—California promises not only to furnish the best wines, but the choicest silks. At the recent Santa Clara County Fair, specimens of superior watered silk dress goods were exhibited; also, sample cocoons from the neighboring counties, and the fact demonstrated that the entire State is well adapted to silk growing.